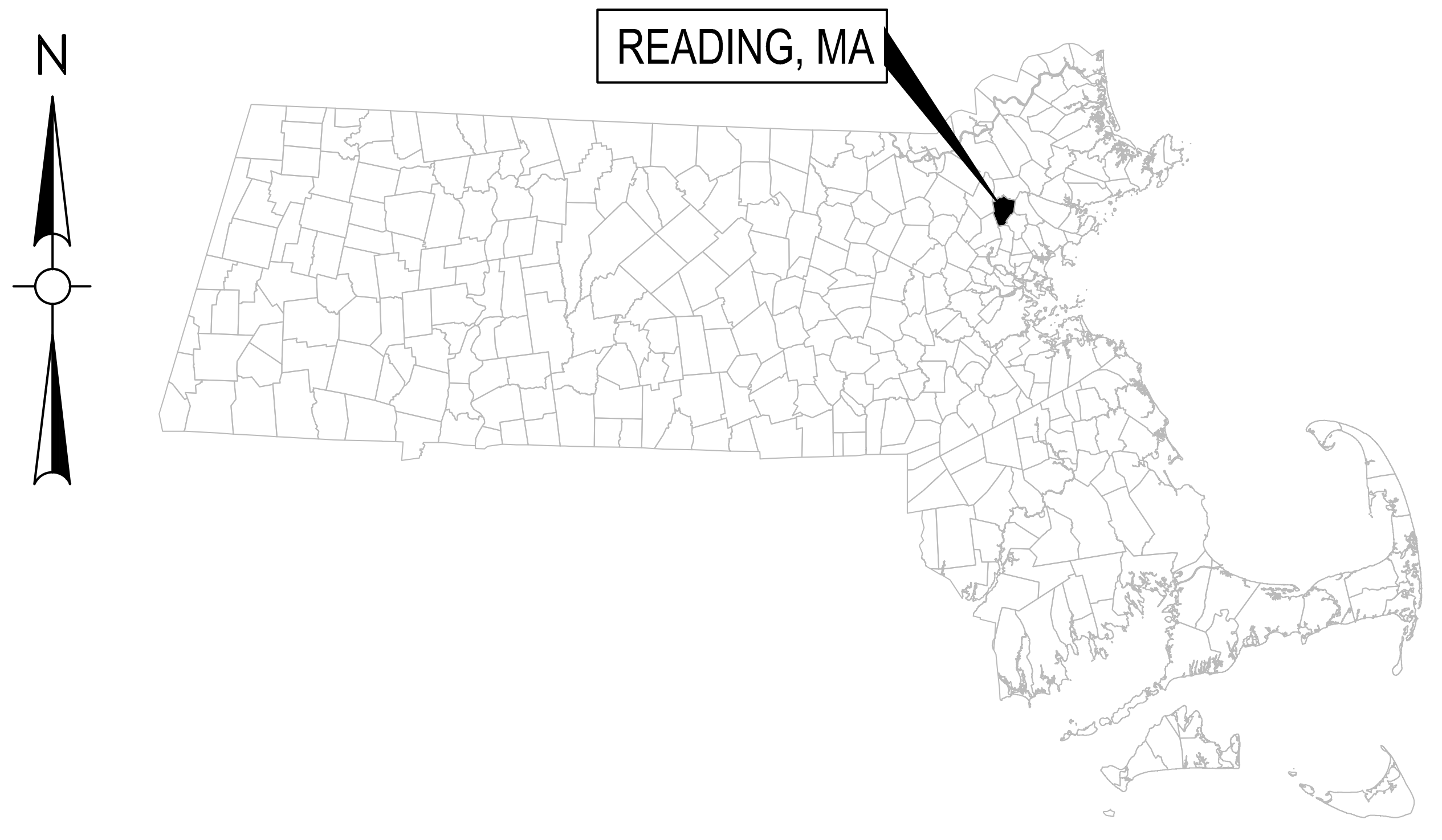
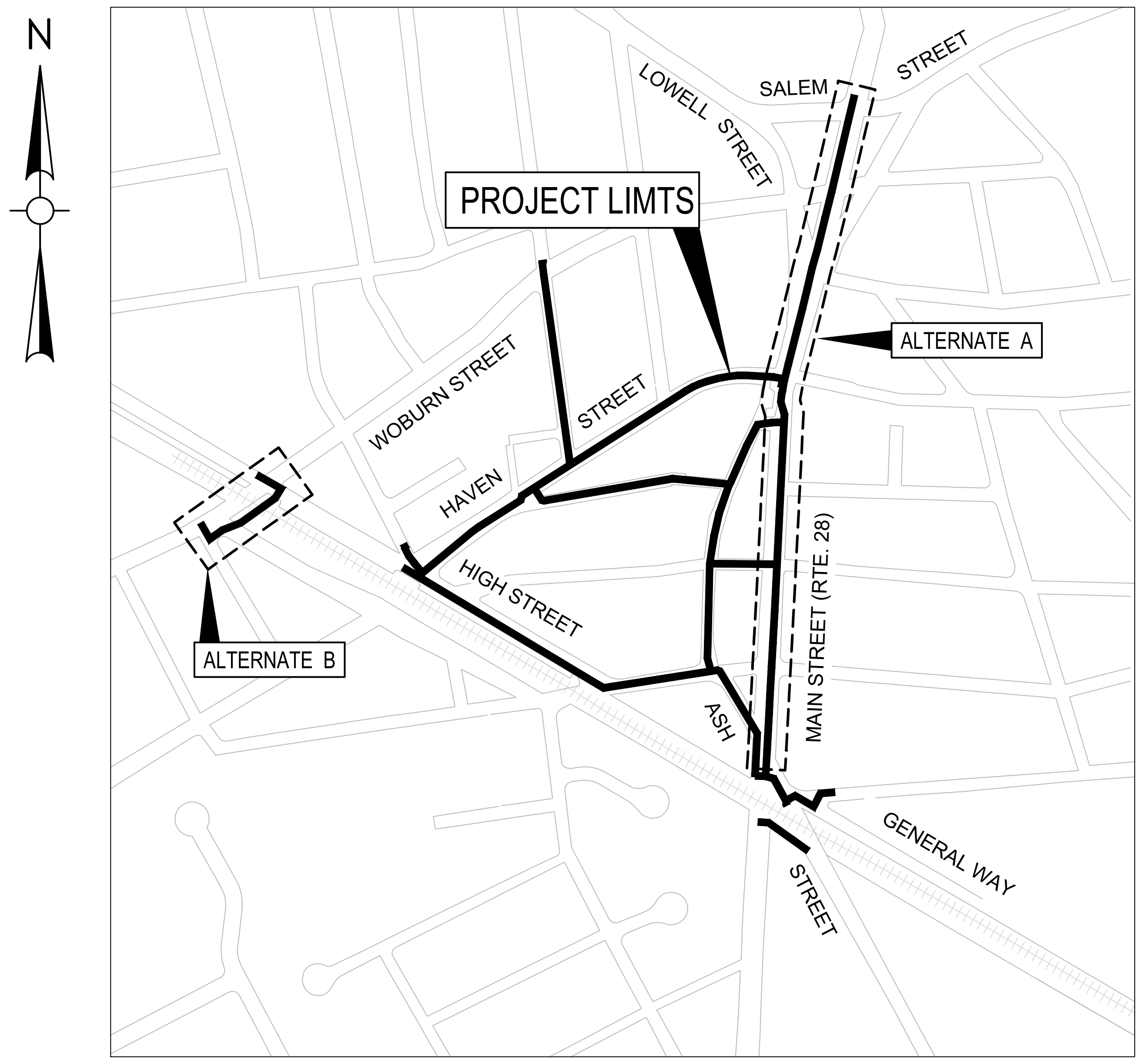
TOWN OF READING, MASSACHUSETTS

DOWNTOWN WATER MAIN IMPROVEMENTS
CONTRACT No. 22-30

DEPARTMENT OF PUBLIC WORKS, 16 LOWELL STREET, READING, MA 01867



MASSACHUSETTS MUNICIPAL MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

DRAWING INDEX

SHEET NUMBER:	DRAWING TITLE:
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CU103	MAIN, ASH, GOULD, AND HAVEN STREET
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www.westonandsampson.com

Issued Date:

JUNE 2022

811 Know what's below. Call before you dig.

Seal:
BRUCE W. ADAMS CIVIL No. 35752

Bruce W. Adams
6/2/2022

Issued For:

BID

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FILE NO. 248-36

LEGEND

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	——S——	—8"S PVC—
FORCE MAIN	– – –FM– – –	– –6"FM DI– –
WATER MAIN	——W——	——6"W DI——
WATER MAIN CLEAN & CEMENT MORTAR LINE	——W——	— —6"W— —
TEMPORARY WATER		– – –4"W– – –
STORM DRAIN	——D——	—18"D RCP—
GAS	——G——	——4"G——
ELECTRIC	——E——	——E——
TELEPHONE	——T——	——T——
TRAFFIC SIGNAL	– – –TS– – –	– – –TS– – –
HOUSE CONNECTION		6" HOUSE CONN (TYP)
CULVERT	—— · · ——	
SANITARY SEWER MANHOLE	Ⓢ	● SMH
STORM DRAIN MANHOLE	Ⓓ	● SDMH
ELECTRICAL MANHOLE	Ⓔ	● EMH
TELEPHONE MANHOLE	Ⓣ	● TMH
AIR RELEASE VALVE MANHOLE	○	● ARMH
FORCE MAIN CLEANOUT MANHOLE	○	● FMCO
CLEANOUT	○	• CO
CATCH BASIN	□	■ CB
CATCH BASIN (CURB INLET)	▥	
HYDRANT	☼	✚
TEMPORARY HYDRANT		Ⓗ
GATE VALVE	WV ⋈	⧓
CHECK VALVE	|↗|	|↗|
CURB STOP	S○	⧓
BUTTERFLY VALVE	⋈	⋈
BALL VALVE/PLUG VALVE	⋈	⧓
REDUCER	◁	◁
CAP OR PLUG	⊓	⊓
GAS GATE VALVE	GV ⋈	
UTILITY POLE	⊖	•
GUY POLE	◑	
LIGHT POST	☼	
EDGE OF PAVEMENT	———	———
EDGE OF UNPAVED ROAD	— — —	— — —
CURB	═══	═══
SIDEWALK	═══	═══
RAILROAD	┼┼┼┼┼┼┼	
STONE WALL	○○○○○○○○○○	○○○○○○○○○○
RETAINING WALL	RET WALL	RET WALL
FENCE	—X—X—	—X—X—
INDIVIDUAL DECIDUOUS TREE	✿	✿
INDIVIDUAL EVERGREEN TREE	✳	✳
TREE LINE	⌒⌒⌒⌒⌒	⌒⌒⌒⌒⌒
SURVEY MARKER	⊡	
PROPERTY LINE	—— —PL— ——	
EASEMENT LINE	— — — —	— — — —
LIMIT OF WORK		— · — · —
APPROX. LIMIT OF REFUSE	—— – ——	
SPOT ELEVATIONS	x 141.5	x 141.5
CONTOUR LINES	——56——	——56——
DEPRESSION CONTOUR LINES	┬┬┬┬	┬┬┬┬
HOUSE NUMBER	#35	
FLOOR ELEVATION	FL=56.7	
SILL ELEVATION	S=56.7	
WETLAND	↓ ↓ ↓	
WETLAND FLAGS		—●1 · · —●2
RIP RAP	⬡⬡⬡⬡⬡⬡⬡⬡	⬡⬡⬡⬡⬡⬡⬡⬡
STATE HIGHWAY STATION	⊙	
SURFACE MOUNTED DELINEATOR		⌀
GUARD POST	△	▲
BOLLARD	○ B	● B
SIGN	—o—	
BENCH MARK	⊕	
AUGER	⊕ A–1	⊕ A–1
PERCOLATION TEST	PT 1	PT–1
TEST PIT	TP 1	TP–1
BORING	⊕ B–10	⊕ B–11
PROBE	⊕ P–10	⊕ P–11
GROUNDWATER MONITORING WELL	⊕ WS–1	⊕ WS–1
GAS MONITORING WELL	⊖ GMW–10	⊖ GMW–10
GAS VENT	⬡ GV	⬢ GV
HAY BALES		
ROCK OUTCROP	▨	
DRAINAGE DITCH / SWALE	═ : ═	═ : ═

NOTE: ITEMS SHOWN IN THE LEGEND AND LIST IN ABBREVIATIONS MAY NOT BE PRESENT IN THESE PLANS.

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
ARV	AIR RELEASE VALVE
ASPH	AIR RELIEF VALVE
ASTM	ASPHALTIC COATING
BC	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BIT	BITUMINOUS CONCRETE
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CDF	CONTROLLED DENSITY FILL
CI	CAST IRON
℄	CENTERLINE
CL	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CS	CARBON STEEL
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FF	FINISHED FLOOR
FA	FIRE ALARM
FL	FLOW LINE
FLG	FLANGE
FT	FEET, FOOT
FRP	FIBER REINFORCED PLASTIC
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GRANITE
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	FIRE HYDRANT
INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
N/A	NOT APPLICABLE
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
N/F	NOW OR FORMERLY
NO OR #	NUMBER
N.T.S.	NOT TO SCALE
OD	OUTSIDE DIAMETER
PCB	PROPOSED CATCH BASIN
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PDMH	PROPOSED DRAINAGE MANHOLE
PE	PLAIN END, POLYETHYLENE
PED	PEDESTRIAN
PL	PROPERTY LINE
PL	PLATE
PSMH	PROPOSED SANITARY MANHOLE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT–OF–WAY
RQD	ROCK QUALITY
S	SEWER, SOUTH
SE	SOUTH EAST
SECT	SECTION
SHT	SHEET
SMH	SANITARY SEWER MANHOLE
SPEC	SPECIFICATIONS
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK, SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TBM	TEMPORARY BENCH MARK
TF	TOP OF FRAME
THK	THICK (THICKNESS)
TOP	TOP OF PIPE
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT

GENERAL NOTES

1. THE CONTRACTOR SHALL CALL DIGSAFE AT 811 OR 1.888.344.7233 AT LEAST 72–HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER AND ENGINEER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO VERIFY EXISTING UTILITY LOCATIONS, SIZES, AND TYPES OR TO DETERMINE POTENTIAL CONFLICTS WITH WATER MAINS, SERVICES, OR LATERALS.
4. THE CONTRACTOR SHALL NOTIFY THE LOCAL WATER DEPARTMENT AT LEAST 72–HOURS PRIOR TO EXCAVATING NEAR WATER LINES. CONTRACTOR SHALL COORDINATE ALL WATER MAIN SHUTDOWNS WITH THE OWNER AT LEAST 72–HOURS IN ADVANCE.
5. IF THE CONTRACTOR OBSERVES ANY FIELD CONDITIONS WHICH VARY SIGNIFICANTLY FROM WHAT IS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND OWNER FOR RESOLUTION OF CONFLICTING INFORMATION.
6. ABOVE GROUND UTILITIES, SURFACE ELEVATIONS, AND INVERT DEPTHS WERE ACQUIRED BY FIELD SURVEY BY LIGHTHOUSE LAND SURVEYING, LLC. IN JULY AND AUGUST OF 2019. SUPPLEMENTAL SURVEY WAS COMPLETED BY WESTON & SAMPSON ENGINEERS, INC. IN APRIL AND NOVEMBER 2021. SUBSURFACE UTILITIES, PROPERTY LINE INFORMATION, AND BUILDING LAYOUTS WERE COMPILED FROM FIELD MEASUREMENTS, RECORD DRAWINGS, SERVICE TIE–CARDS, AND TOWN OF READING GIS BY WESTON & SAMPSON.
7. BORINGS WERE PERFORMED BY TECHNICAL DRILLING SERVICES OF STERLING, MA AND OBSERVED BY WESTON & SAMPSON BETWEEN JUNE 29 & 30, 2021. REFER TO BORING LOGS IN SPECIFICATION APPENDIX A FOR A DETAILED DESCRIPTION OF THE SOILS ENCOUNTERED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
9. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL CONDITIONS AND REQUIREMENTS STATED IN THE APPLICABLE PERMITS. SEE SPECIFICATION SECTION 00890, PERMITS.
10. THE CONTRACTOR SHALL NOTIFY THE MASSDOT DISTRICT PERMITS ENGINEER AT 781.641.8451 TWO (2) WORKING DAYS PRIOR TO THE START OF WORK IN THE STATE ROADWAY.
11. THE CONTRACTOR SHALL CONTACT THE AREA CONTACT PERSON AT 617.279.7206 TWO (2) WORKING DAYS PRIOR TO THE START OF WORK.
12. NIGHT WORK MAY BE ALLOWED AT THE OWNER'S DISCRETION. NIGHT WORK SHALL BE REQUESTED OF THE OWNER AT LEAST ONE–WEEK IN ADVANCE AND SHALL BE IN ACCORDANCE WITH ALL PERMITS.
13. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF MASSACHUSETTS GENERAL LAW CHAPTER 82A, TRENCH EXCAVATION AND SAFETY REQUIREMENTS, TO PREVENT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES.
14. WORK COMPLETED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE MASSDOT PERMIT TO ACCESS THE STATE HIGHWAY.
15. WORK COMPLETED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE MBTA LICENSE AGREEMENT TO ACCESS THE RAILROAD RIGHT–OF–WAY AND ZONE OF INFLUENCE AREAS.

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL INSTALL THE EROSION CONTROL DEVICES BEFORE BEGINNING OTHER WORK ON SITE.
2. CONTRACTOR SHALL PROVIDE AND MAINTAIN CATCH BASIN PROTECTION FOR ALL CATCH BASINS DOWN GRADIENT OF PROPOSED WORK.
3. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
4. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
5. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
6. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, AND EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
7. THE LOCATION AND LIMITS OF ALL STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO, THE OWNER AND ENGINEER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE–ESTABLISHING AND RESETTING ALL EXISTING PROPERTY MONUMENTS DISTURBED BY HIS OPERATIONS. THIS WORK SHALL BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF MASSACHUSETTS AT NO ADDITIONAL COST TO THE OWNER.
9. WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
10. THE CONTRACTOR SHALL RECORD TIE MEASUREMENTS, DEPTH, DIMENSIONS, MATERIALS, FIELD CONDITIONS AND OTHER PERTINENT DATA REGARDING UNDERGROUND PIPING AND STRUCTURES ENCOUNTERED DURING CONSTRUCTION, BOTH EXISTING AND CONSTRUCTED. CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WITH THIS INFORMATION TO THE OWNER AND THE ENGINEER PRIOR TO COMPLETION OF THE WORK.
11. IN THE EVENT THAT THE CONTRACTOR DAMAGES AN EXISTING UTILITY, REPAIRS SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE UTILITY COMPANY'S REQUIREMENTS, AT NO COST TO THE OWNER.
12. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING. COVERING WITH STEEL PLATES MAY BE ALLOWED IF APPROVED BY THE ENGINEER. STEEL PLATES SHALL BE RECESSED INTO THE PAVEMENT, SHIMMED, WELDED (IF REQUIRED BY THE ENGINEER), AND MADE SMOOTH AND FLUSH WITH EXISTING SURFACE.
13. CONTRACTOR SHALL INSTALL TEMPORARY HOT MIX ASPHALT PAVEMENT ON ALL DISTURBED TRENCHES BY THE END OF EACH WEEK.
14. CONTRACTOR SHALL REPLACE ALL TRAFFIC LOOPS DISTURBED BY THEIR WORK.

PIPING NOTES

1. ALL DUCTILE IRON PIPE, FITTINGS, VALVES, HYDRANT STEMS, LATERALS, ETC. SHALL BE POLYETHYLENE ENCASED.
2. COMPACTION TESTING WILL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF FINAL COMPLETION OF THE WORK SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST.
3. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED.
4. ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED OR REQUIRED BY THE ENGINEER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLITION MATERIALS.
6. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO ANY TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE OWNER.
7. CONTRACTOR SHALL MAINTAIN ALL SANITARY AND STORM FLOWS AT ALL TIMES. IF CONTRACTOR DETERMINES BY–PASS PUMPING IS REQUIRED, CONTRACTOR SHALL PREPARE A DETAILED SEWER OR STORM BYPASS PLAN AND SUBMIT SAME TO THE OWNER FOR APPROVAL.
8. CONCRETE USED FOR PIPE ANCHOR BLOCKS, BACKING, PIPE CRADLES, ARCHES, AND FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
9. APPROVED JOINT RESTRAINT METHODS SHALL BE PROVIDED FOR WATER MAINS WHERE ANY BENDS, TEES, PLUGS, OR WYES ARE INSTALLED. CONCRETE THRUST BLOCKS, ANCHOR BLOCKS, AND TIE RODS MAY BE USED FOR 6–INCH AND 8–INCH PIPE WHERE JOINT RESTRAINT IS NOT FEASIBLE. FOR THRUST BLOCK DETAILS AND MINIMUM BLOCK BEARING AREAS, SEE DETAILS AND SPECIFICATIONS.
10. NEW WATER MAINS, LATERALS, AND SERVICES SHALL BE INSTALLED AT A MINIMUM DEPTH OF FIVE FEET FROM FINISHED GRADE TO TOP OF PIPE, OR AS SHOWN ON DRAWINGS. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
11. EXISTING SERVICES SHALL NOT BE CONNECTED TO THE TEMPORARY OR NEW WATER MAIN UNTIL THAT MAIN HAS PASSED PRESSURE TEST AND DISINFECTION REQUIREMENTS.
12. EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER. WATER SERVICE SHALL NOT BE INTERRUPTED FOR MORE THAN FOUR HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
13. ALL HYDRANTS REMOVED SHALL BE EITHER DISPOSED OF OR SALVAGED AND DELIVERED TO A LOCATION TO BE DETERMINED BY THE OWNER, AT NO ADDITIONAL COST.
14. ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED BURLAP BAG.
15. VALVE BOXES ON VALVES OR MAINS TO BE ABANDONED SHALL BE REMOVED BY THE CONTRACTOR AND DELIVERED TO A LOCATION TO BE DETERMINED BY THE OWNER, AT NO ADDITIONAL COST. CONTRACTOR TO BACKFILL AND PAVE AS REQUIRED.
16. THE LOCATION OF PIPES, CAPS, REDUCERS, BENDS, AND OTHER FITTINGS AT POINTS OF CONNECTIONS TO EXISTING MAINS IS APPROXIMATE. CONTRACTOR SHALL DIG A TEST PIT AT EACH LOCATION TO DETERMINE THE DIAMETER AND MATERIAL OF THE EXISTING PIPE AND THE LOCATION OF THE TIE–IN POINT.
17. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 72–HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY IN WRITING, 48–HOURS IN ADVANCE, ANY OCCUPANT THAT WILL BE WITHOUT WATER DUE TO A SHUTDOWN.
18. SOME WATER SERVICE CONNECTIONS MAY NOT BE SHOWN ON THE DRAWINGS. THE OWNER WILL MARK THE LOCATION OF SUCH CONNECTIONS, PROVIDED THE CONTRACTOR GIVES THE OWNER AT LEAST 72–HOURS ADVANCED NOTICE.
19. ALL NEW WATER SERVICES SHALL BE THE SAME SIZE AS THE EXISTING WATER SERVICES, EXCEPT THAT NO SERVICE SHALL BE LESS THAN 1–INCH DIAMETER. COORDINATE THIS WORK WITH THE WATER DEPARTMENT.
20. TEMPORARY WATER SERVICE PIPE WILL BE REQUIRED FOR ALL RESIDENTS WITHIN THE CONTRACT LIMITS WHERE THEY WILL BE WITHOUT FOR A PERIOD OF 4–HOURS OR MORE AND ALSO WHERE REQUIRED BY THE ENGINEER. TEMPORARY GATE VALVES AND FIRE HYDRANTS ARE TO BE PROVIDED, AS REQUIRED.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY BYPASS AT ALL TIMES WHILE ACTIVELY BEING USED TO FEED DWELLINGS.
22. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING CAST IRON/ASBESTOS CEMENT WATER MAIN WHEN THE EXISTING WATER MAIN IS WITHIN THE TRENCH LIMITS. CONTRACTOR SHALL CONFORM TO THE LATEST FEDERAL AND STATE GUIDELINES REGARDING ASBESTOS PIPE REMOVAL AND DISPOSAL.

Project:
TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

DEPARTMENT OF PUBLIC WORKS
16 LOWELL STREET
READING, MA 01867

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Consultants:

Revisions:

No.	Date	Description

Seal:
BRUCE W. ADAMS
CIVIL
No. 35752

Bruce W. Adams

Issued For:
BID

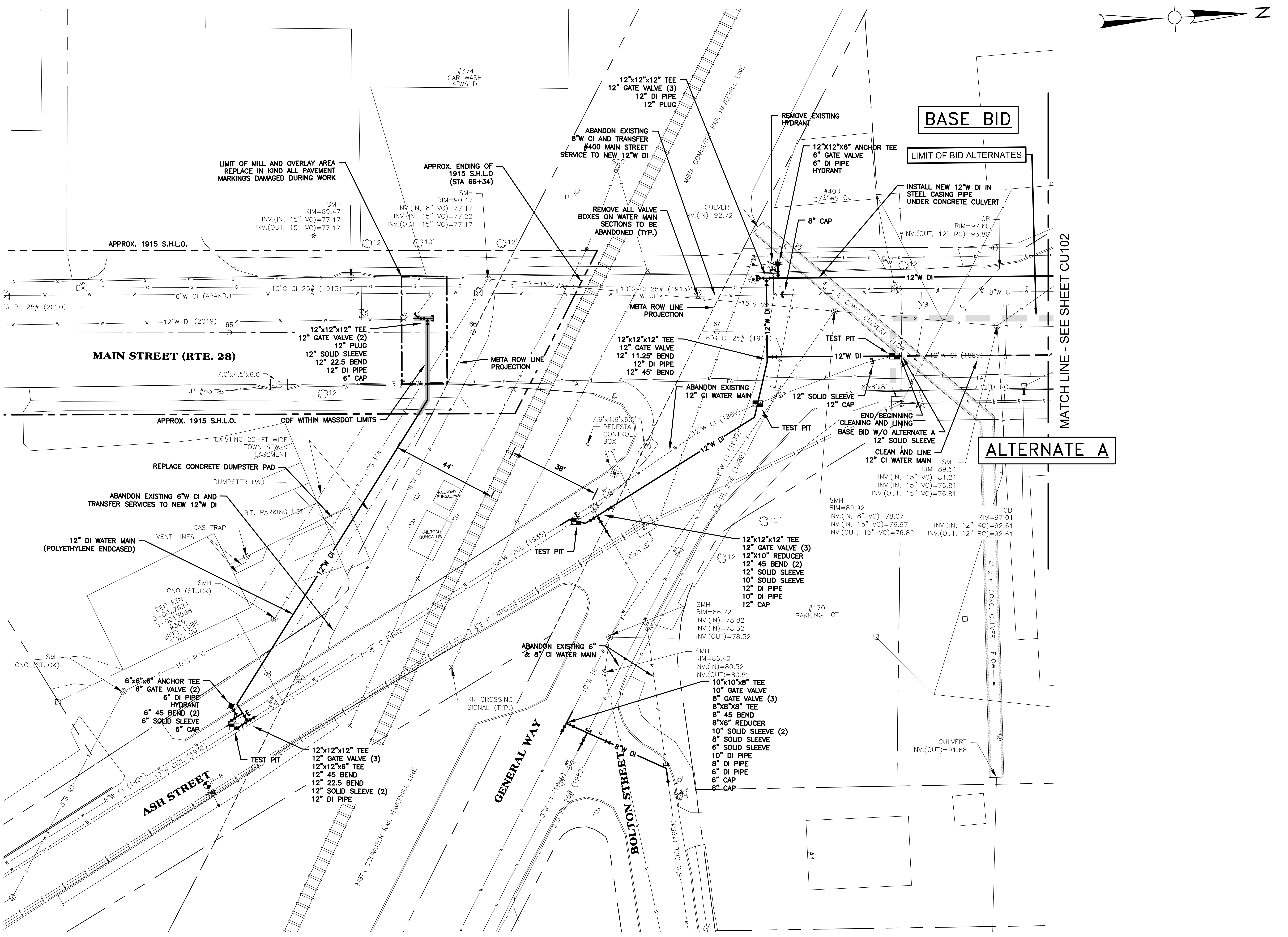
Scale: AS NOTED
Date: JUNE, 2022
Drawn By: ZJM
Reviewed By: BAR
Approved By: BWA
W&S Project No.: ENG21-0314
W&S File No.: 248-35

Drawing Title:
ABBREVIATIONS, NOTES, & LEGEND

Sheet Number:
GG001

Rev: 2.0 Date: July 2020

\\wse03.local\WSE\Projects\MA\Reading MA\Downtown Water Mains\CADD\Design\PLAN SHEETS\01 General Notes & Legend.dwg



PLAN

SCALE: 1" = 20'

20 10 0 20 40
SCALE: 1"=20'

Project:

TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
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CONTRACT 22-30

DEPARTMENT OF PUBLIC WORKS
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Drawn By:	ZJM/NVS
Reviewed By:	BAR
Approved By:	BWA
W&S Project No.:	ENG21-0314
W&S File No.:	248-34

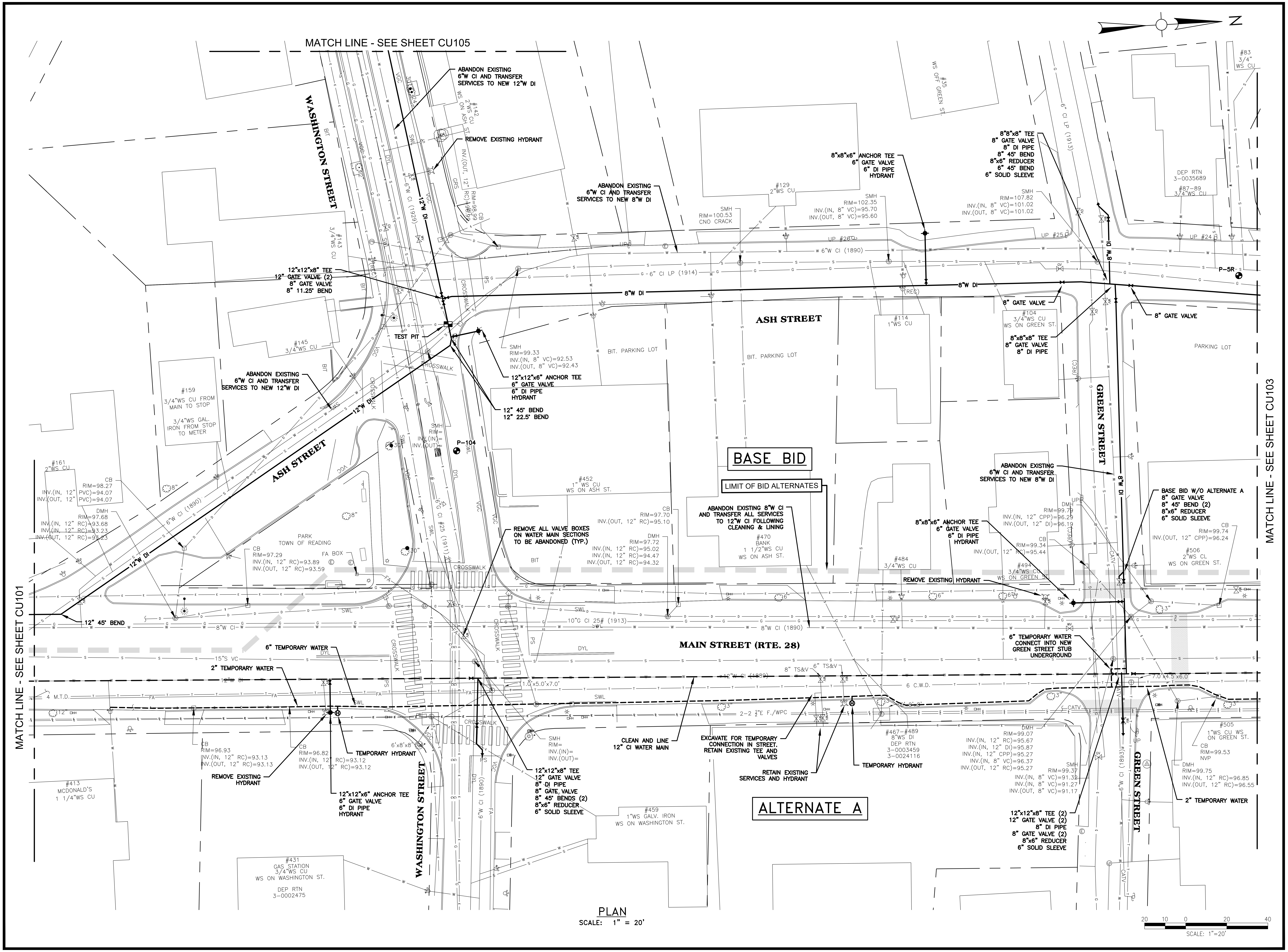
Drawing Title:

MAIN AND ASH
STREET

Sheet Number:

CU101

Rev. 2.0 Date: July 2020


MATCH LINE - SEE SHEET CU105
MATCH LINE - SEE SHEET CU101
MATCH LINE - SEE SHEET CU103
N
ABANDON EXISTING 6"W CI AND TRANSFER SERVICES TO NEW 12"W DI
REMOVE EXISTING HYDRANT
WASHINGTON STREET
ABANDON EXISTING 6"W CI AND TRANSFER SERVICES TO NEW 8"W DI
8"x8"x6" ANCHOR TEE 6" GATE VALVE 6" DI PIPE HYDRANT
8"8"x8" TEE 8" GATE VALVE 8" DI PIPE 8" 45° BEND 8"x6" REDUCER 6" 45° BEND 6" SOLID SLEEVE
12"x12"x8" TEE 12" GATE VALVE (2) 8" GATE VALVE 8" 11.25° BEND
8"W DI
12"W DI
ASH STREET
8" GATE VALVE
8" GATE VALVE
8"x8"x8" TEE 8" GATE VALVE 8" DI PIPE
TEST PIT
12"x12"x6" ANCHOR TEE 6" GATE VALVE 6" DI PIPE HYDRANT
12" 45° BEND 12" 22.5° BEND
ABANDON EXISTING 6"W CI AND TRANSFER SERVICES TO NEW 12"W DI
BIT. PARKING LOT
PARKING LOT
GREEN STREET
BASE BID
LIMIT OF BID ALTERNATES
ABANDON EXISTING 8"W CI AND TRANSFER ALL SERVICES TO 12"W CI FOLLOWING CLEANING & LINING
ABANDON EXISTING 6"W CI AND TRANSFER SERVICES TO NEW 8"W DI
BASE BID W/O ALTERNATE A 8" GATE VALVE 8" 45° BEND (2) 8"x6" REDUCER 6" SOLID SLEEVE
8"x8"x6" ANCHOR TEE 6" GATE VALVE 6" DI PIPE HYDRANT
REMOVE ALL VALVE BOXES ON WATER MAIN SECTIONS TO BE ABANDONED (TYP.)
PARK TOWN OF READING
REMOVE EXISTING HYDRANT
12" 45° BEND
6" TEMPORARY WATER
2" TEMPORARY WATER
MAIN STREET (RTE. 28)
6" TEMPORARY WATER CONNECT INTO NEW GREEN STREET STUB UNDERGROUND
REMOVE EXISTING HYDRANT
TEMPORARY HYDRANT
12"x12"x6" ANCHOR TEE 6" GATE VALVE 6" DI PIPE HYDRANT
12"x12"x8" TEE 12" GATE VALVE 8" DI PIPE 8" GATE VALVE 8" 45° BENDS (2) 8"x6" REDUCER 6" SOLID SLEEVE
CLEAN AND LINE 12" CI WATER MAIN
EXCAVATE FOR TEMPORARY CONNECTION IN STREET. RETAIN EXISTING TEE AND VALVES
RETAIN EXISTING SERVICES AND HYDRANT
TEMPORARY HYDRANT
12"x12"x8" TEE (2) 12" GATE VALVE (2) 8" DI PIPE 8" GATE VALVE (2) 8"x6" REDUCER 6" SOLID SLEEVE
2" TEMPORARY WATER
ALTERNATE A
P-104
P-5R
PLAN
SCALE: 1" = 20'
20 10 0 20 40
SCALE: 1"=20'

Project:

TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

DEPARTMENT OF PUBLIC WORKS
16 LOWELL STREET
READING, MA 01867

Weston & Sampson

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Consultants:

Revisions:

No.	Date	Description

Seal:

BRUCE W. ADAMS
CIVIL
No. 35752

Bruce W. Adams

Issued For:

BID

Scale:	AS NOTED
Date:	JUNE, 2022
Drawn By:	ZJM/NVS
Reviewed By:	BAR
Approved By:	BWA
W&S Project No.:	ENG21-0314
W&S File No.:	248-33

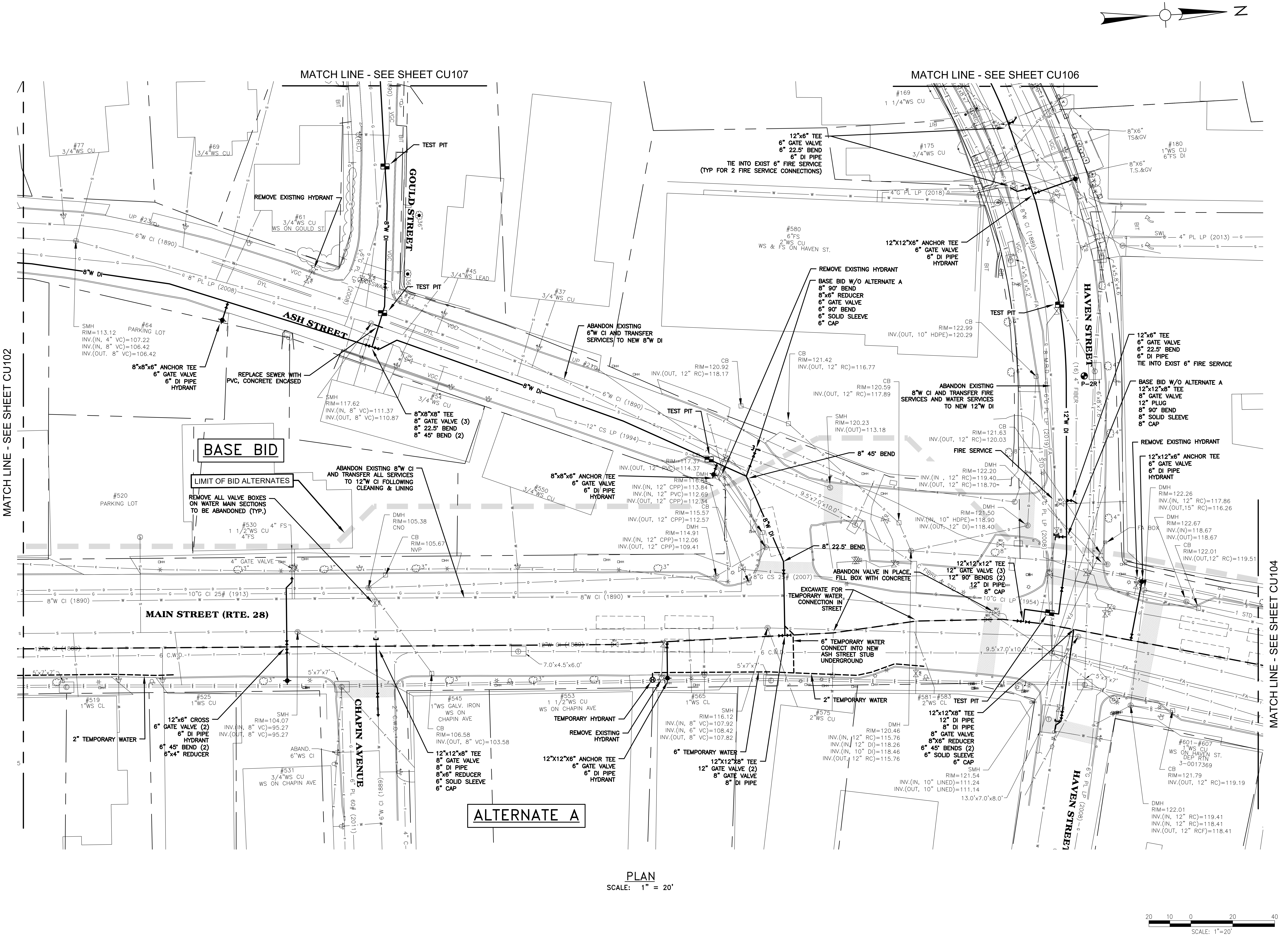
Drawing Title:

MAIN, ASH, GREEN,
AND WASHINGTON
STREET

Sheet Number:

CU102

Rev. 2.0 Date: July 2020


MATCH LINE - SEE SHEET CU107
MATCH LINE - SEE SHEET CU106
MATCH LINE - SEE SHEET CU102
MATCH LINE - SEE SHEET CU104
N
#77 3/4"WS CU
#69 3/4"WS CU
#61 3/4"WS CU WS ON GOULD ST
#45 3/4"WS LEAD
#37 3/4"WS CU
#64 PARKING LOT
#54 3/4"WS CU
#550 3/4"WS CU
#520 PARKING LOT
#530 1 1/2"WS CU 4"FS
4" FS
#169 1 1/4"WS CU
#175 3/4"WS CU
#180 1"WS CU 6"FS DI
8"X6" TS&GV
8"X6" T.S.&GV
#580 6"FS 2"WS CU WS & FS ON HAVEN ST.
#519 1"WS CL
#525 1"WS CU
#531 3/4"WS CU WS ON CHAPIN AVE
ABAND. 6"WS CI
#545 1"WS GALV. IRON WS ON CHAPIN AVE
#553 1 1/2"WS CU WS ON CHAPIN AVE
#565 1"WS CL
#575 2"WS CU
#581-#583 2"WS CL
#601-#607 1"WS CU WS ON HAVEN ST. DEP RTN 3-0017369
GOULD STREET
ASH STREET
MAIN STREET (RTE. 28)
CHAPIN AVENUE
HAVEN STREET
8"W DI
12"W DI
6"W CI (1890)
8"W CI (1890)
12"W CI (1889)
8"W CI (1889)
8" PL LP (2008)
6"G PL LP (2008)
12" CS LP (1994)
10"G CI 25# (1913)
8"G CS 25# (2007)
10"G CI LP (1954)
4"G PL LP (2018)
4" PL LP (2013)
6"G PL LP (2019)
6" PL 60# (2011)
6"W CI (1889)
6 C.W.D.
2" C.W.D.
(16) 4" FIBER
C FIBRE & STD
1 STD
8 M.B.D.
UP #23
UP #22
UP #21
VGC
DYL
BIT
SWL
P-2R
9.5'x7.0'x10.0'
7.0'x4.5'x6.0'
5'x7'x7'
13.0'x7.0'x8.0'
4'x5.6'x5.2'
4'x5.8'x4.6'
6'x8'x7.6'
TEST PIT
REMOVE EXISTING HYDRANT
8"x8"x6" ANCHOR TEE
6" GATE VALVE
6" DI PIPE
HYDRANT
REPLACE SEWER WITH PVC, CONCRETE ENCASED
8"X8"X8" TEE
8" GATE VALVE (3)
8" 22.5° BEND
8" 45° BEND (2)
ABANDON EXISTING 6"W CI AND TRANSFER SERVICES TO NEW 8"W DI
SMH RIM=113.12 INV.(IN, 4" VC)=107.22 INV.(IN, 8" VC)=106.42 INV.(OUT. 8" VC)=106.42
SMH RIM=117.62 INV.(IN, 8" VC)=111.37 INV.(OUT, 8" VC)=110.87
BASE BID
LIMIT OF BID ALTERNATES
REMOVE ALL VALVE BOXES ON WATER MAIN SECTIONS TO BE ABANDONED (TYP.)
ABANDON EXISTING 8"W CI AND TRANSFER ALL SERVICES TO 12"W CI FOLLOWING CLEANING & LINING
DMH RIM=105.38 CNO
CB RIM=105.67 NVP
4" GATE VALVE
12"x6" TEE
6" GATE VALVE
6" 22.5° BEND
6" DI PIPE
TIE INTO EXIST 6" FIRE SERVICE (TYP FOR 2 FIRE SERVICE CONNECTIONS)
12"X12"X6" ANCHOR TEE
6" GATE VALVE
6" DI PIPE
HYDRANT
REMOVE EXISTING HYDRANT
BASE BID W/O ALTERNATE A
8" 90° BEND
8"x6" REDUCER
6" GATE VALVE
6" 90° BEND
6" SOLID SLEEVE
6" CAP
CB RIM=122.99 INV.(OUT, 10" HDPE)=120.29
CB RIM=120.92 INV.(OUT, 12" RC)=118.17
CB RIM=121.42 INV.(OUT, 12" RC)=116.77
CB RIM=120.59 INV.(OUT, 12" RC)=117.89
SMH RIM=120.23 INV.(OUT)=113.18
ABANDON EXISTING 8"W CI AND TRANSFER FIRE SERVICES AND WATER SERVICES TO NEW 12"W DI
CB RIM=121.63 INV.(OUT, 12" RC)=120.03
FIRE SERVICE
8" 45° BEND
DMH RIM=122.20 INV.(IN , 12" RC)=119.40 INV.(OUT, 12" RC)=118.70
DMH RIM=121.50 INV.(IN, 10" HDPE)=118.90 INV.(OUT, 12" DI)=118.40
12"x6" TEE
6" GATE VALVE
6" 22.5° BEND
6" DI PIPE
TIE INTO EXIST 6" FIRE SERVICE
BASE BID W/O ALTERNATE A
12"x12"x8" TEE
8" GATE VALVE
12" PLUG
8" 90° BEND
8" SOLID SLEEVE
8" CAP
REMOVE EXISTING HYDRANT
12"x12"x6" ANCHOR TEE
6" GATE VALVE
6" DI PIPE
HYDRANT
DMH RIM=122.26 INV.(IN, 12" RC)=117.86 INV.(OUT,15" RC)=116.26
DMH RIM=122.67 INV.(IN)=118.67 INV.(OUT)=118.67
FA BOX
CB RIM=122.01 INV.(OUT,12" RC)=119.51
CB RIM=117.37 INV.(OUT, 12" PVC)=114.37
DMH RIM=116.84 INV.(IN, 12" CPP)=113.84 INV.(IN, 12" PVC)=112.69 INV.(OUT, 12" CPP)=112.34
CB RIM=115.57 INV.(OUT, 12" CPP)=112.57
DMH RIM=114.91 INV.(IN, 12" CPP)=112.06 INV.(OUT, 12" CPP)=109.41
8" 22.5° BEND
ABANDON VALVE IN PLACE, FILL BOX WITH CONCRETE
12"x12"x12" TEE
12" GATE VALVE (3)
12" 90° BENDS (2)
12" DI PIPE
8" CAP
EXCAVATE FOR TEMPORARY WATER CONNECTION IN STREET
6" TEMPORARY WATER CONNECT INTO NEW ASH STREET STUB UNDERGROUND
2" TEMPORARY WATER
12"x12"X8" TEE
12" DI PIPE
8" DI PIPE
8" GATE VALVE
8"X6" REDUCER
6" 45° BENDS (2)
6" SOLID SLEEVE
6" CAP
SMH RIM=121.54 INV.(IN, 10" LINED)=111.24 INV.(OUT, 10" LINED)=111.14
CB RIM=121.79 INV.(OUT, 12" RC)=119.19
DMH RIM=122.01 INV.(IN, 12" RC)=119.41 INV.(IN, 12" RC)=118.41 INV.(OUT, 12" RCF)=118.41
12"x6" CROSS
6" GATE VALVE (2)
6" DI PIPE
HYDRANT
6" 45° BEND (2)
6"x4" REDUCER
2" TEMPORARY WATER
SMH RIM=104.07 INV.(IN, 8" VC)=95.27 INV.(OUT, 8" VC)=95.27
CB RIM=106.58 INV.(OUT, 8" VC)=103.58
12"x12"x8" TEE
8" GATE VALVE
8" DI PIPE
8"x6" REDUCER
6" SOLID SLEEVE
6" CAP
TEMPORARY HYDRANT
REMOVE EXISTING HYDRANT
12"X12"X6" ANCHOR TEE
6" GATE VALVE
6" DI PIPE
HYDRANT
SMH RIM=116.12 INV.(IN, 8" VC)=107.92 INV.(IN, 6" VC)=108.42 INV.(OUT, 8" VC)=107.82
6" TEMPORARY WATER
12"X12"X8" TEE
12" GATE VALVE (2)
8" GATE VALVE
8" DI PIPE
DMH RIM=120.46 INV.(IN, 12" RC)=115.76 INV.(IN, 12" DI)=118.26 INV.(IN, 10" DI)=118.46 INV.(OUT, 12" RC)=115.76
ALTERNATE A
20 10 0 20 40
SCALE: 1"=20'

PLAN
SCALE: 1" = 20'

Project:
TOWN OF READING, MASSACHUSETTS

DOWNTOWN WATER MAIN IMPROVEMENTS
CONTRACT 22-30

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16 LOWELL STREET
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No. 35752

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BID

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Reviewed By:	BAR
Approved By:	BWA
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W&S File No.:	248-32

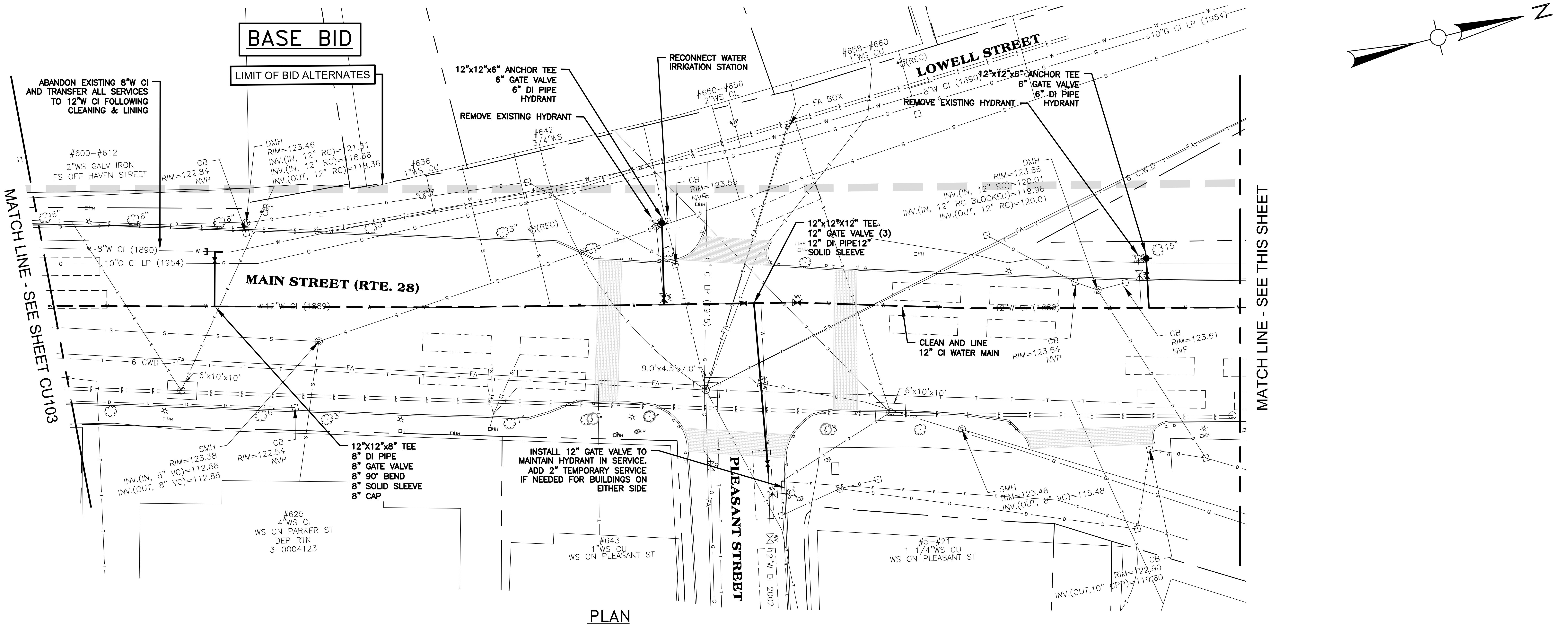
Drawing Title:

MAIN, ASH, GOULD, AND HAVEN STREET

Sheet Number:

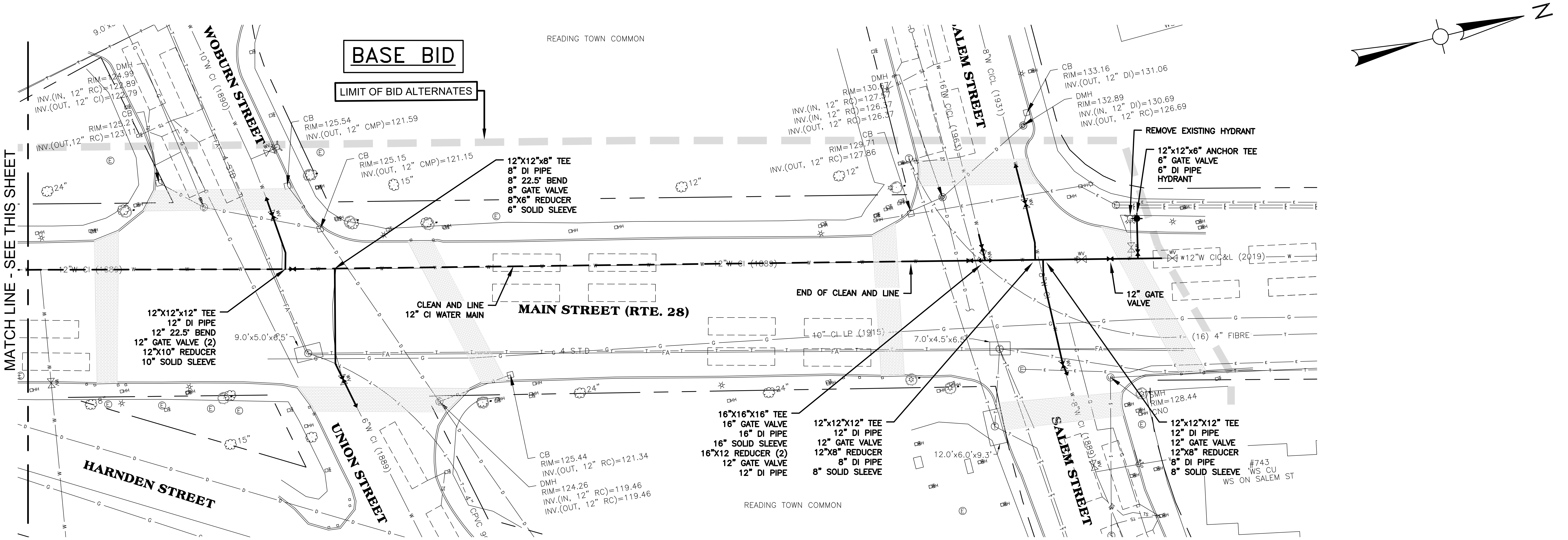
CU103

Rev: 2.0 Date: July 2020


BASE BID
LIMIT OF BID ALTERNATES
ABANDON EXISTING 8"W CI AND TRANSFER ALL SERVICES TO 12"W CI FOLLOWING CLEANING & LINING
12"x12"x6" ANCHOR TEE
6" GATE VALVE
6" DI PIPE
HYDRANT
REMOVE EXISTING HYDRANT
RECONNECT WATER IRRIGATION STATION
LOWELL STREET
12"x12"x6" ANCHOR TEE
6" GATE VALVE
6" DI PIPE
HYDRANT
REMOVE EXISTING HYDRANT
#600-#612
2"WS GALV IRON
FS OFF HAVEN STREET
CB RIM=122.84 NVP
DMH RIM=123.46 INV.(IN, 12" RC)=121.31 INV.(IN, 12" RC)=118.36 INV.(OUT, 12" RC)=118.36
#636 1"WS CU
#642 3/4"WS
#650-#656 2"WS CL
#658-#660 1"WS CU
FA BOX
CB RIM=123.55 NVP
DMH RIM=123.66 INV.(IN, 12" RC)=120.01 INV.(IN, 12" RC BLOCKED)=119.96 INV.(OUT, 12" RC)=120.01
MATCH LINE - SEE SHEET CU103
8"W CI (1890)
10"G CI LP (1954)
MAIN STREET (RTE. 28)
12"W CI (1889)
12"x12"x12" TEE
12" GATE VALVE (3)
12" DI PIPE
12" SOLID SLEEVE
CLEAN AND LINE 12" CI WATER MAIN
CB RIM=123.61 NVP
CB RIM=123.64 NVP
MATCH LINE - SEE THIS SHEET
6 CWD
6'x10'x10'
9.0'x4.5'x7.0'
6'x10'x10'
12"x12"x8" TEE
8" DI PIPE
8" GATE VALVE
8" 90° BEND
8" SOLID SLEEVE
8" CAP
INSTALL 12" GATE VALVE TO MAINTAIN HYDRANT IN SERVICE. ADD 2" TEMPORARY SERVICE IF NEEDED FOR BUILDINGS ON EITHER SIDE
SMH RIM=123.38 INV.(IN, 8" VC)=112.88 INV.(OUT, 8" VC)=112.88
CB RIM=122.54 NVP
#625 4"WS CI WS ON PARKER ST DEP RTN 3-0004123
#643 1"WS CU WS ON PLEASANT ST
PLEASANT STREET
12"W DI 2002
SMH RIM=123.48 INV.(OUT, 8" VC)=115.48
#5-#21 1 1/4"WS CU WS ON PLEASANT ST
CB RIM=122.90 INV.(OUT,10" CPP)=119.60
CI LP (1915)
Z

PLAN
SCALE: 1" = 20'

ALTERNATE A



PLAN
SCALE: 1" = 20'

ALTERNATE A

20 10 0 20 40
SCALE: 1"=20'

Project:
TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

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16 LOWELL STREET
READING, MA 01867

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Consultants:

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CIVIL
No. 35752

Bruce W. Adams

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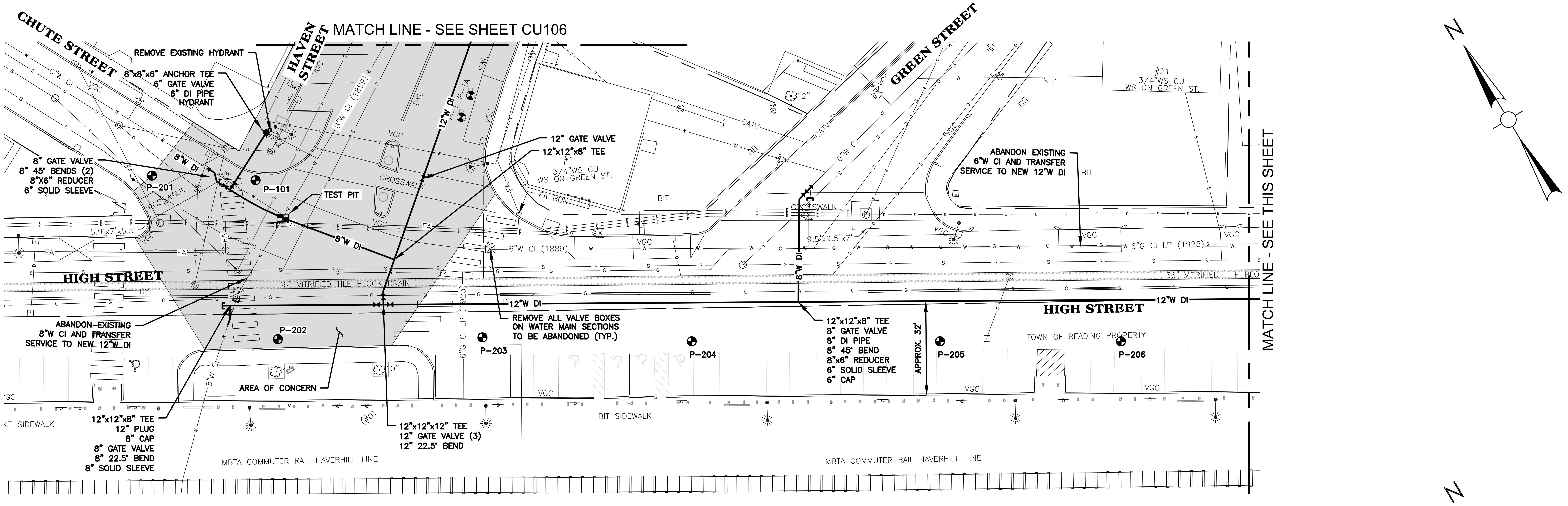
Drawing Title:
MAIN STREET

Sheet Number:
CU104

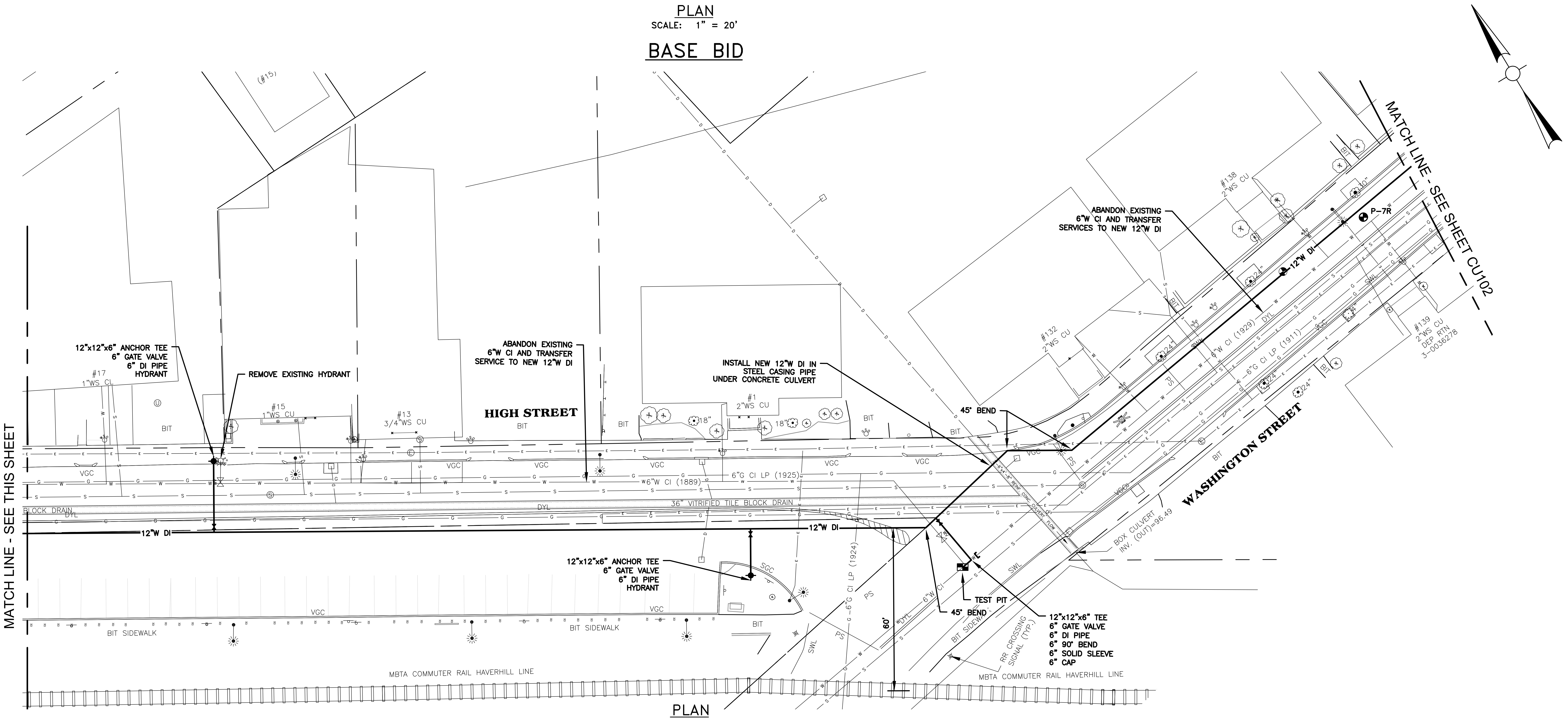
Rev. 2.0 Date: July 2020



PLAN

SCALE: 1" = 20'

BASE BID



PLAN

SCALE: 1" = 20'

BASE BID

20 10 0 20 40

SCALE: 1"=20'

Project:

TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
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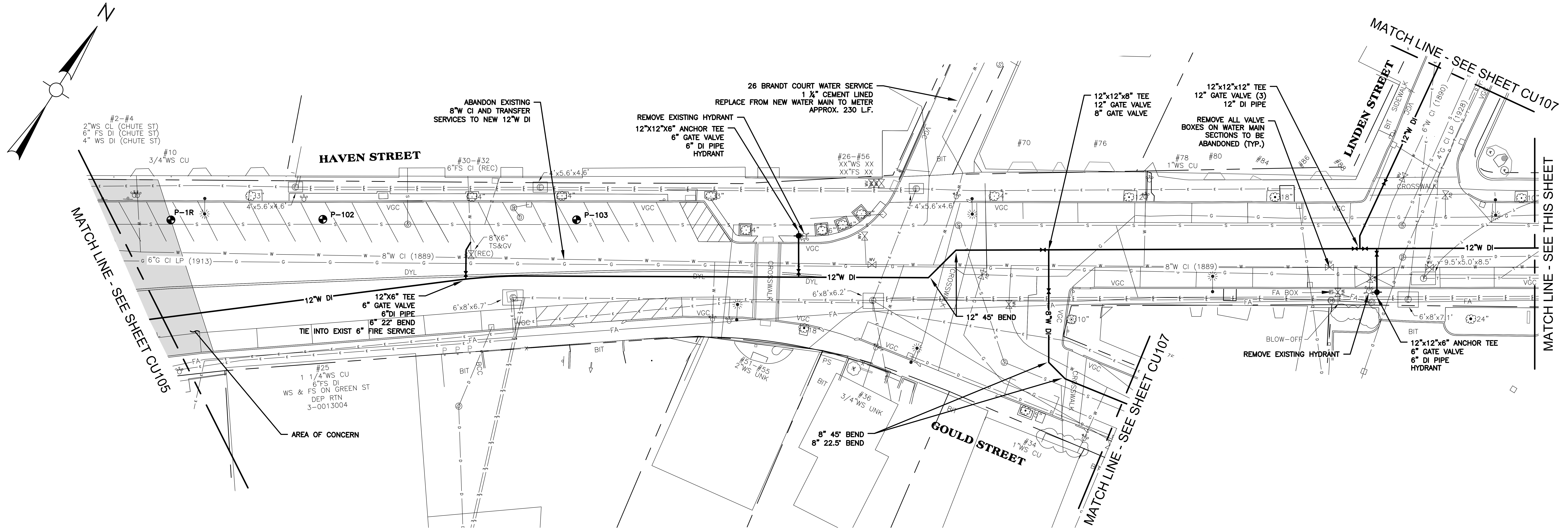
Drawing Title:

HIGH, HAVEN, AND
WASHINGTON STREET

Sheet Number:

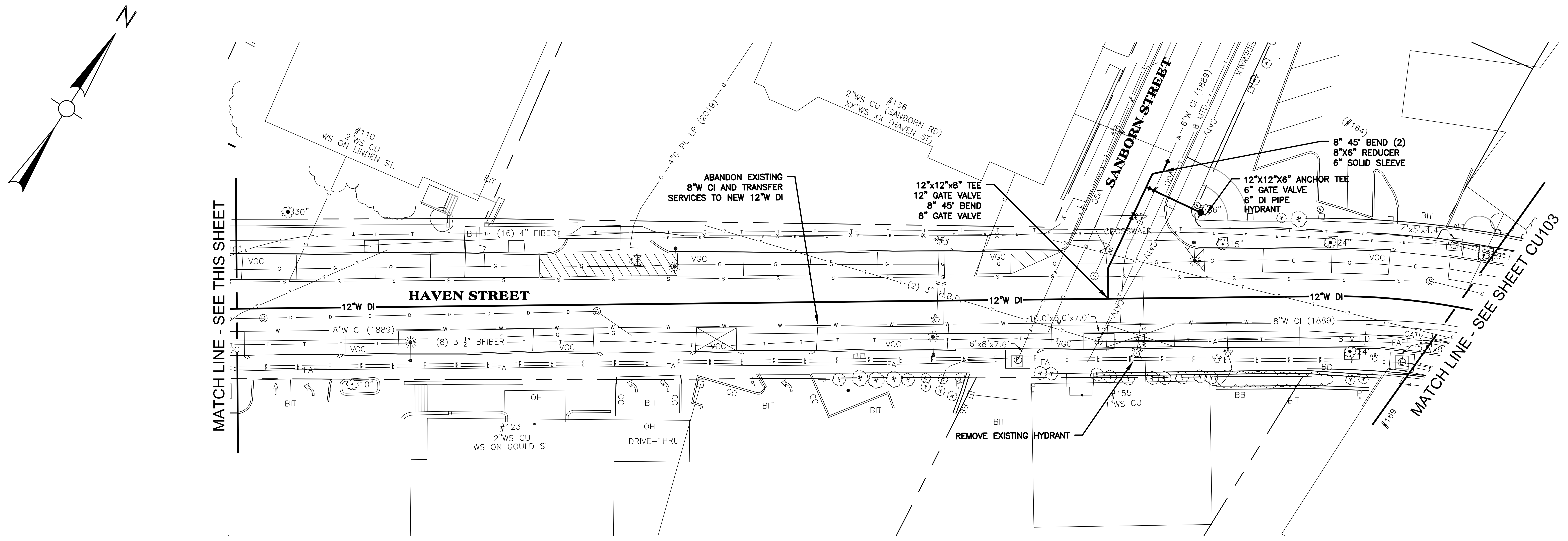
CU105

Rev. 2.0 Date: July 2020



PLAN
SCALE: 1" = 20'

BASE BID



PLAN
SCALE: 1" = 20'

BASE BID

20 10 0 20 40
SCALE: 1"=20'

Project:

TOWN OF READING,
MASSACHUSETTS

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CONTRACT 22-30

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Drawing Title:

HAVEN, GOULD, AND LINDEN STREET

Sheet Number:

CU106

Rev: 2.0 Date: July 2020

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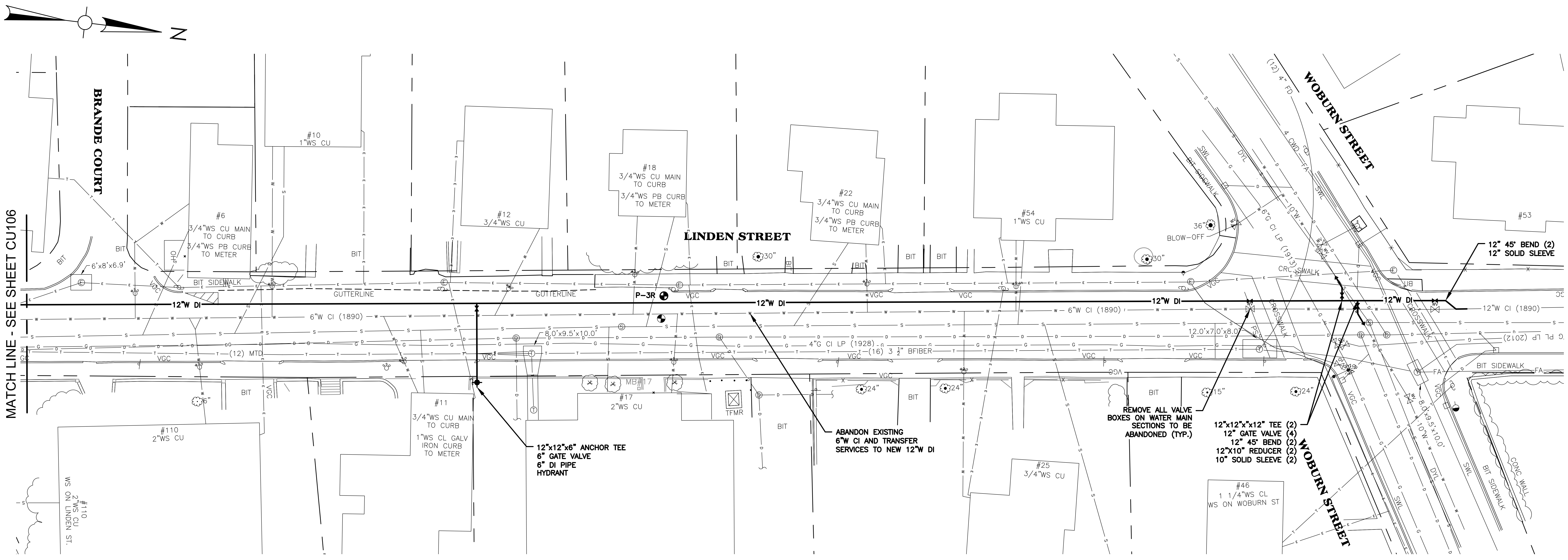
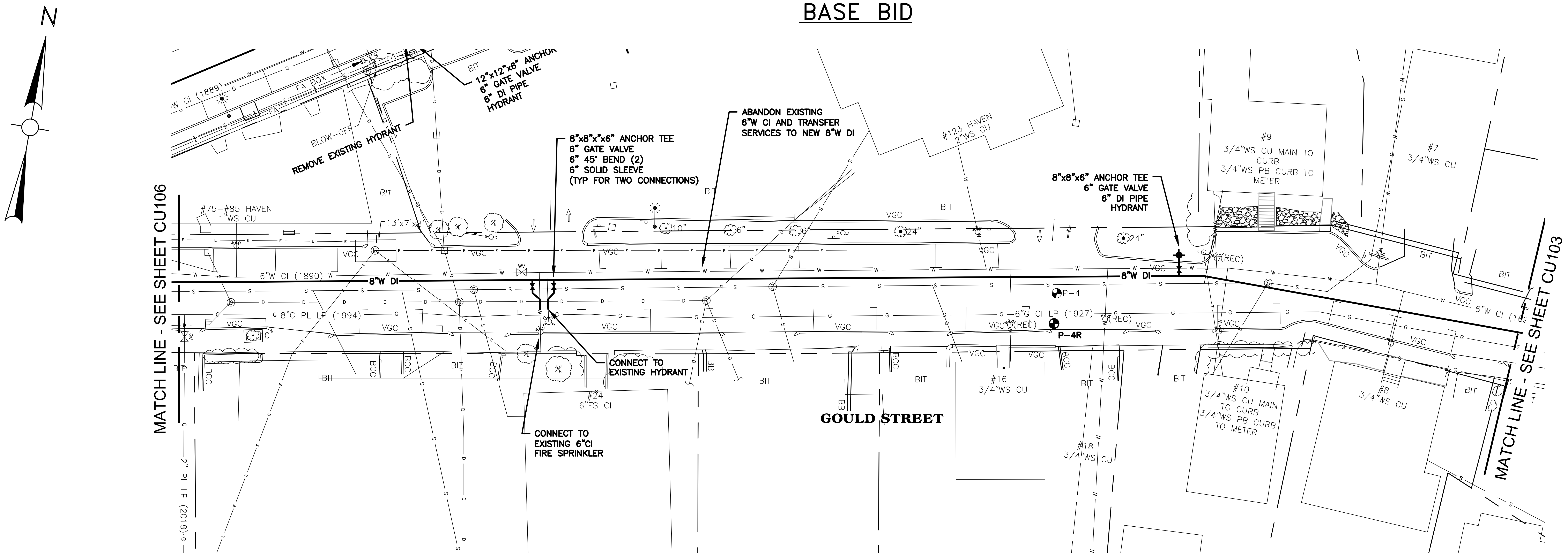


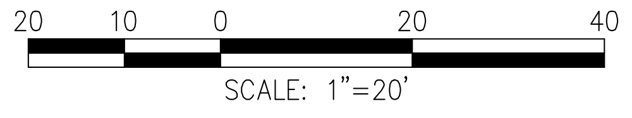
PLAN
SCALE: 1" = 20'

BASE BID



PLAN
SCALE: 1" = 20'

BASE BID



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Project:

TOWN OF READING,
MASSACHUSETTS

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CONTRACT 22-30

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Drawing Title:

LINDEN AND
GOULD STREET

Sheet Number:

CU107

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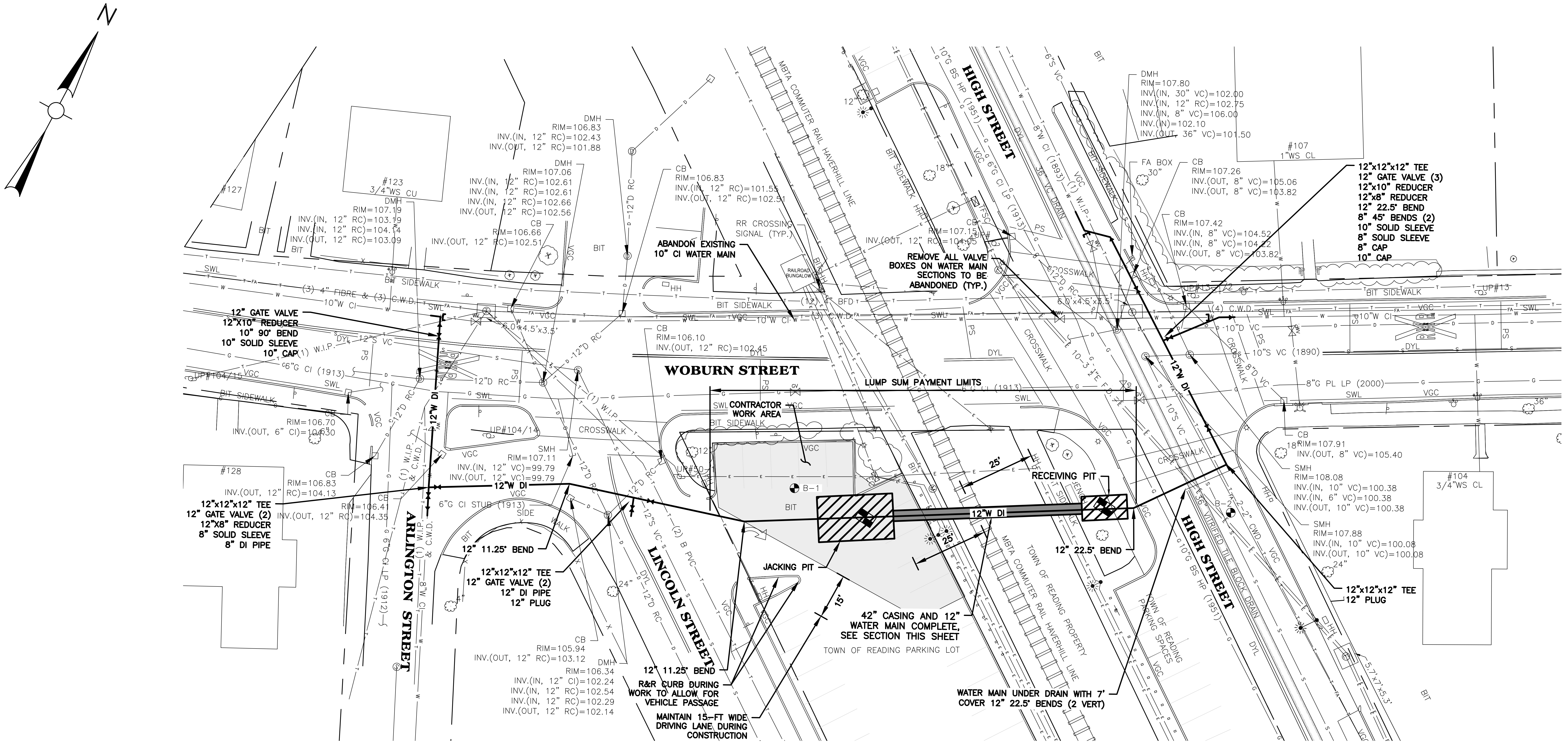
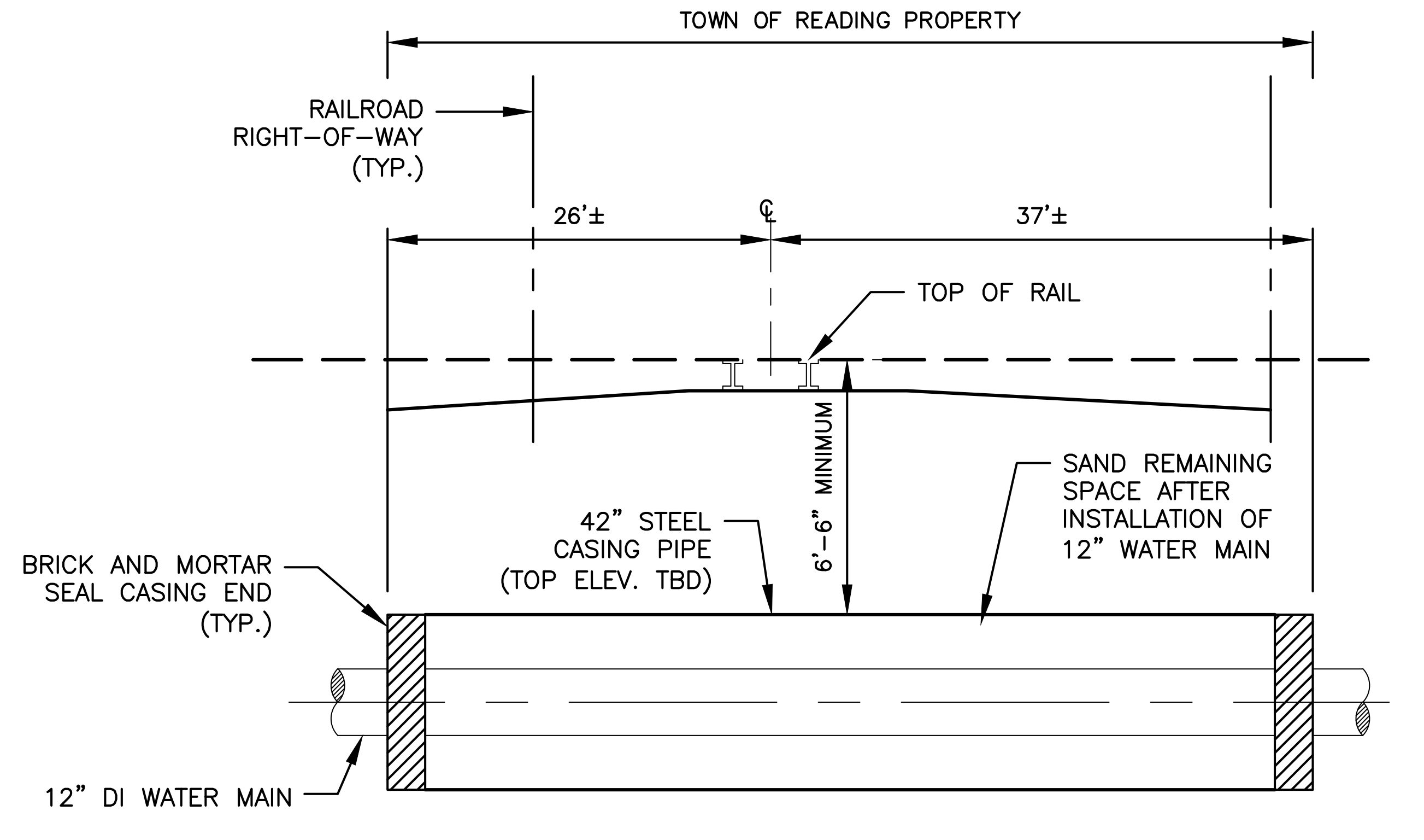


PLAN

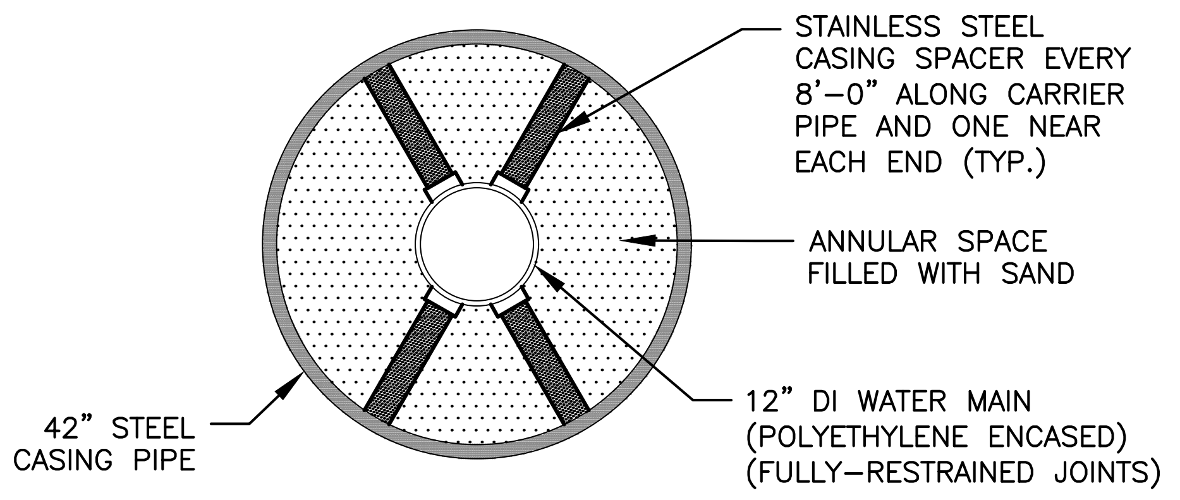
SCALE: 1" = 20'

ALTERNATE B


TOWN OF READING PROPERTY
RAILROAD RIGHT-OF-WAY (TYP.)
26'±
℄
37'±
TOP OF RAIL
6'-6" MINIMUM
42" STEEL CASING PIPE (TOP ELEV. TBD)
SAND REMAINING SPACE AFTER INSTALLATION OF 12" WATER MAIN
BRICK AND MORTAR SEAL CASING END (TYP.)
12" DI WATER MAIN

MBTA RAILROAD WATER CROSSING

N.T.S.


STAINLESS STEEL CASING SPACER EVERY 8'-0" ALONG CARRIER PIPE AND ONE NEAR EACH END (TYP.)
ANNULAR SPACE FILLED WITH SAND
12" DI WATER MAIN (POLYETHYLENE ENCASED) (FULLY-RESTRAINED JOINTS)
42" STEEL CASING PIPE

42" CASING & WATER MAIN SECTION

N.T.S.

1. STEEL CASING PIPE TO BE INSTALLED BY JACKING METHOD.
2. STEEL CASING PIPE TO HAVE MINIMUM YIELD CASING STRENGTH OF 35,000 PSI.
3. CASING SECTIONS TO BE WELDED 360°.

NOTES:

1) JACKING ENTRY AND EXIT PIT LOCATIONS SHOWN ARE CONCEPTUAL. THE CONTRACTOR IS REQUIRED TO DETERMINE THE PRECISE LOCATION AND CHARACTERISTICS OF JACKING PITS. TEST PITS ARE REQUIRED AT PROPOSED JACKING ENTRY AND EXIT PIT LOCATIONS AND ALL CONNECTIONS TO THE EXISTING WATER SYSTEM.

2) PROPOSED DUCTILE IRON WATER MAIN SHALL BE POLYETHYLENE ENCASED. INSULATION IS REQUIRED WHERE DEPTH IS LESS THAN 4.5-FEET.

3) ALL LABOR, MATERIALS, EQUIPMENT, & INCIDENTALS REQUIRED TO COMPLETE WORK SHOWN WITHIN THE PAYMENT LIMITS SHALL BE PAID FOR UNDER LUMP SUM ITEM 4A, EXCLUDING PERMANENT SURFACE RESTORATION ITEMS.

20 10 0 20 40
SCALE: 1"=20'

Project:
TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

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CIVIL
No. 35752

Bruce W. Adams

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W&S File No.:	248-27

Drawing Title:
WOBURN STREET

Sheet Number:
CU108

Rev. 2.0 Date: July 2020

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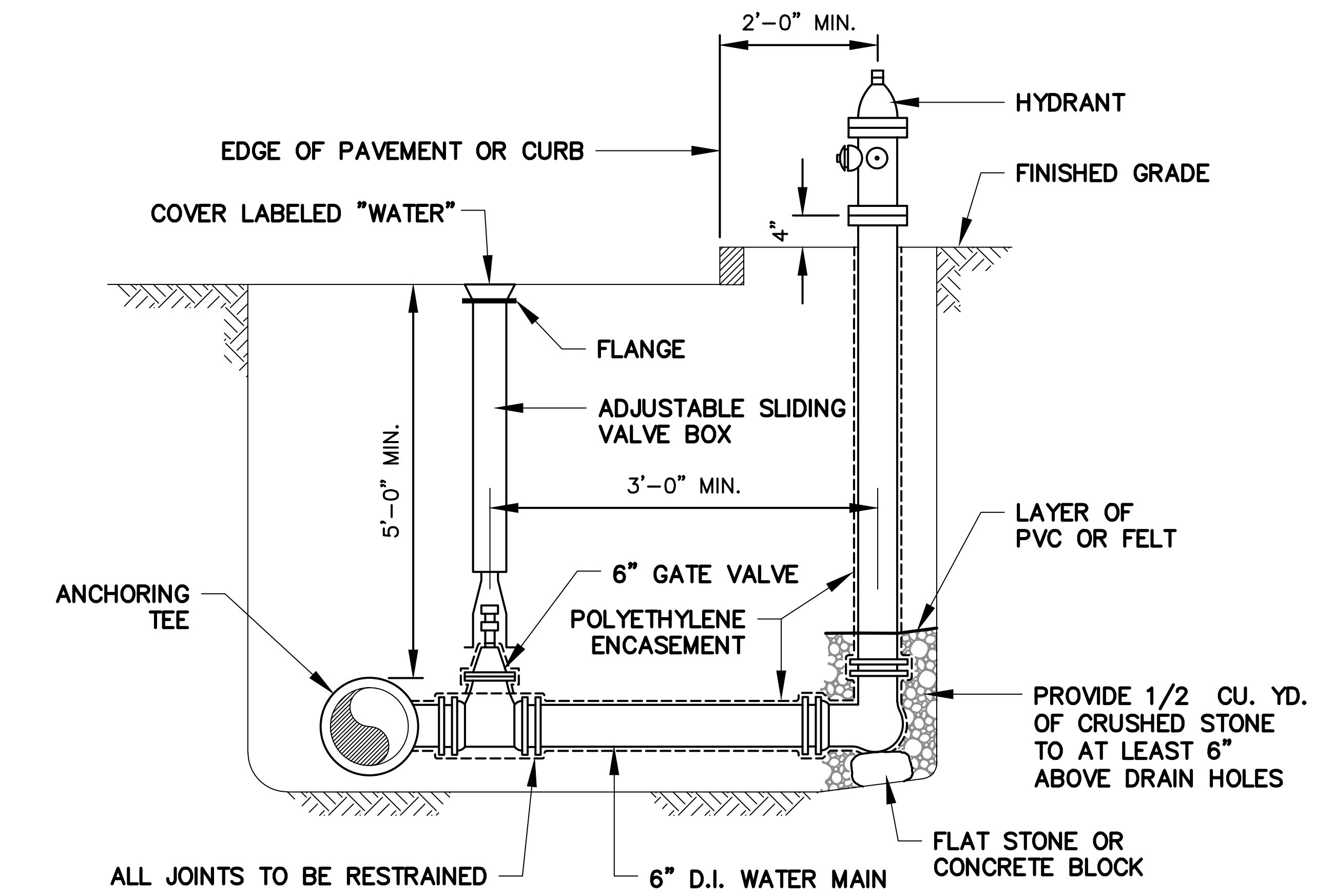
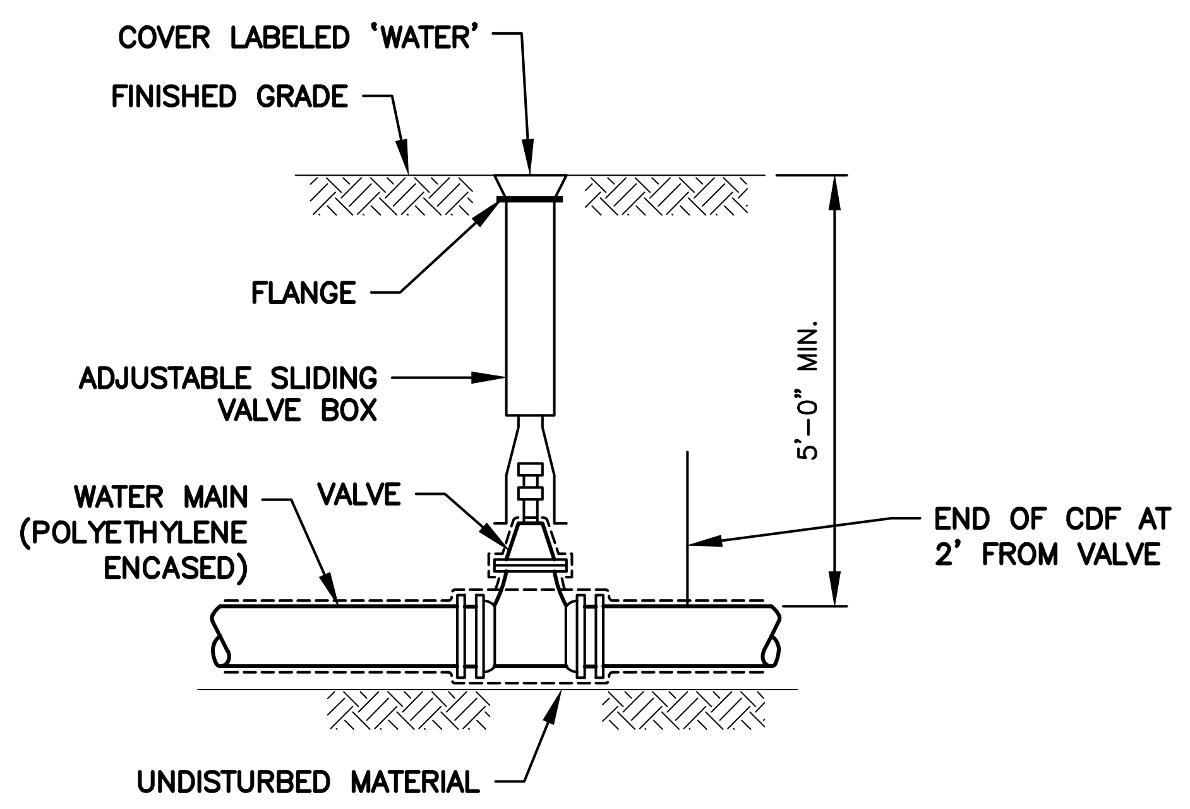


NOTE:

USE TWO 6" BENDS OR OFFSET ON LATERAL TO ACHIEVE REQUIRED HYDRANT ELEVATION IF NECESSARY.

HYDRANT AND VALVE DETAIL

N.T.S.


COVER LABELED 'WATER'
FINISHED GRADE
FLANGE
ADJUSTABLE SLIDING VALVE BOX
5'-0" MIN.
WATER MAIN (POLYETHYLENE ENCASED)
VALVE
END OF CDF AT 2' FROM VALVE
UNDISTURBED MATERIAL

VALVE AND BOX DETAIL

N.T.S.

PIPE SIZE	90° BEND	45° BEND OR WYE BRANCH	22 1/2° BEND	11 1/4° BEND	PLUG, CAP OR IN-LINE VALVE	TEE (BRANCH)
6"	25 (30.5)	10.5 (12.5)	5 (6)	2.5 (3)	43 (64)	34 (51)
8"	33 (40)	13.5 (16.5)	6.5 (8)	3 (4)	55 (82)	47 (70)
10"	40 (48.5)	16.5 (20)	8 (9.5)	4 (5)	67 (100)	58 (87)
12"	47 (56.5)	19.5 (23.5)	9.5 (11.5)	4.5 (5.5)	79 (118)	70 (105)
16"	59.5 (72)	24.5 (30)	12 (14.5)	6 (7)	101 (152)	92 (139)
20"	72 (86.5)	30 (36)	14.5 (17)	7 (8.5)	123 (184)	114 (171)
24"	84 (100)	35 (41)	16.5 (20)	8 (10)	144 (216)	134 (202)
30"	100 (120)	41 (50)	20 (24)	10 (12)	174 (261)	165 (247)

NOTES:

1. RESTRAINED LENGTHS LISTED IN PARENTHESES ARE FOR PIPE WRAPPED IN POLYETHYLENE. THE OTHER ASSOCIATED LENGTHS ARE FOR PLAIN UNWRAPPED DUCTILE IRON PIPE.
2. THE CONTRACTOR SHALL USE THIS TABLE IN CONJUNCTION WITH THE APPROPRIATE PIPE SPECIFICATION SECTION.
3. ALL JOINTS THAT OCCUR WITHIN THE REQUIRED LENGTHS, FOR THE SPECIFIC APPLICATION, SHALL BE RESTRAINED. FOR EXAMPLE, ALL JOINTS WITHIN 56.5 FEET OF A 12-INCH POLYETHYLENE-WRAPPED 90° BEND MUST BE RESTRAINED.

REQUIRED LENGTH OF RESTRAINED JOINTS FROM FITTINGS (FEET)

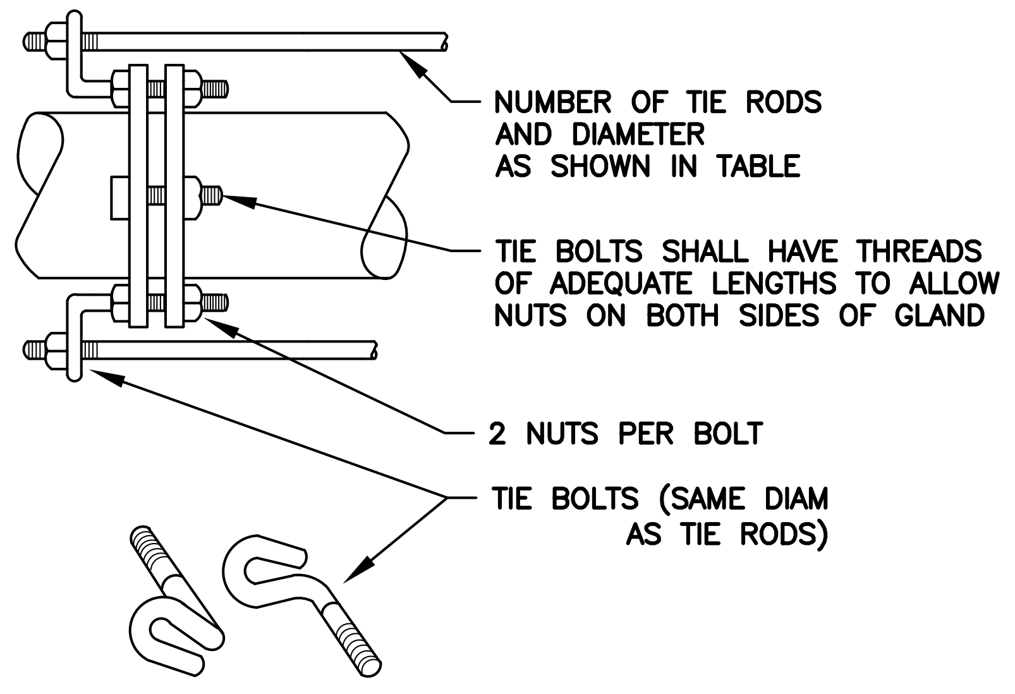
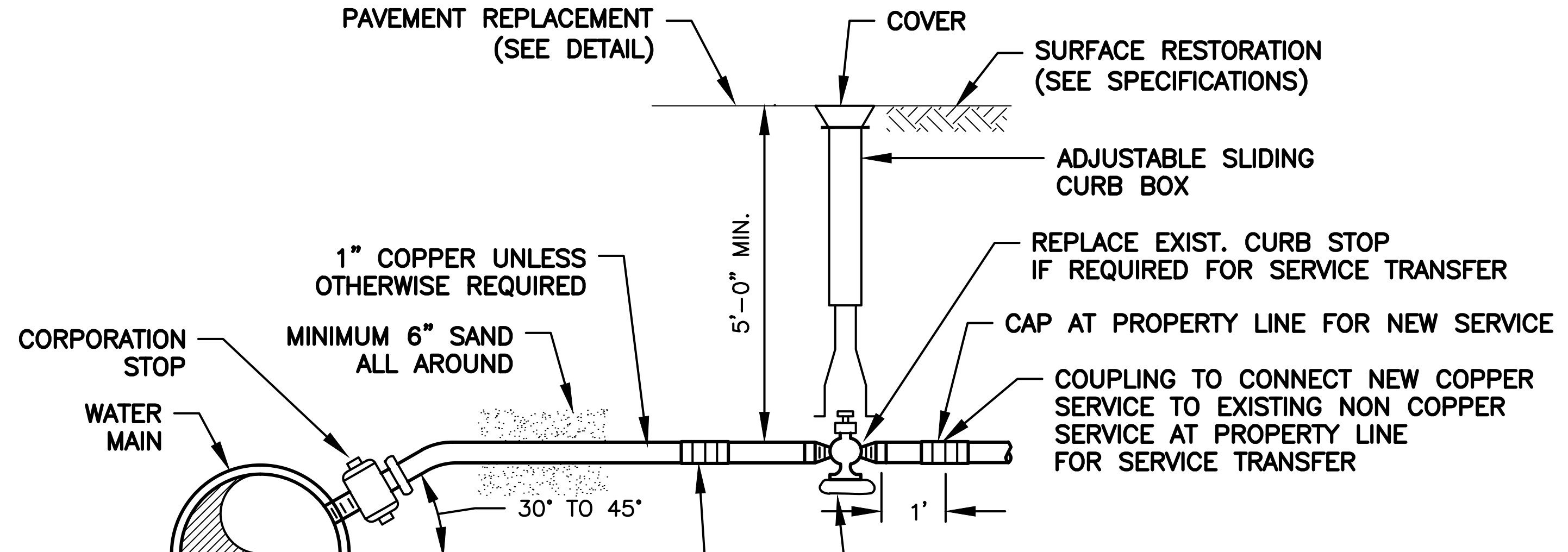

NUMBER OF TIE RODS AND DIAMETER AS SHOWN IN TABLE
TIE BOLTS SHALL HAVE THREADS OF ADEQUATE LENGTHS TO ALLOW NUTS ON BOTH SIDES OF GLAND
2 NUTS PER BOLT
TIE BOLTS (SAME DIAM AS TIE RODS)

TABLE OF TIE RODS		
PIPE SIZE	TIE ROD	
	NO.	DIA.
6"	2	1/2"
8"	2	5/8"
10"	2	3/4"
12"	4	3/4"

NOTE: TIE ROD JOINT RESTRAINT SHALL ONLY BE USED WHERE OTHER MEANS OF RESTRAINT ARE NOT FEASIBLE. TIE RODS AND BOLTS SHALL BE FULLY WRAPPED IN POLYETHYLENE ENCASEMENT.

TIE ROD JOINT RESTRAINT DETAIL

N.T.S.

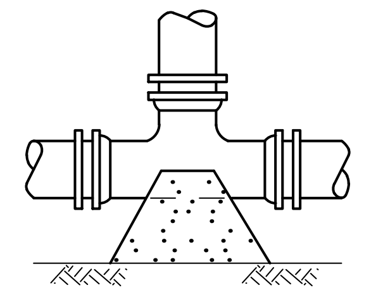

PAVEMENT REPLACEMENT (SEE DETAIL)
COVER
SURFACE RESTORATION (SEE SPECIFICATIONS)
ADJUSTABLE SLIDING CURB BOX
5'-0" MIN.
1" COPPER UNLESS OTHERWISE REQUIRED
REPLACE EXIST. CURB STOP IF REQUIRED FOR SERVICE TRANSFER
CAP AT PROPERTY LINE FOR NEW SERVICE
CORPORATION STOP
MINIMUM 6" SAND ALL AROUND
COUPLING TO CONNECT NEW COPPER SERVICE TO EXISTING NON COPPER SERVICE AT PROPERTY LINE FOR SERVICE TRANSFER
WATER MAIN
30° TO 45°
1'
FLAT STONE OR CONCRETE BLOCK
COUPLING TO CONNECT NEW COPPER SERVICE TO EXIST. 1" COPPER SERVICE (IF 1" CURB STOP IS TO REMAIN)

NOTE:

1. PROVIDE SADDLE FOR ALL AC AND PVC MAINS AND ALL 2-INCH OR LARGER SERVICES.
2. CONTRACTOR SHALL NOT DRILL NEW HOLES INTO THE TOWN'S MAIN WITHOUT APPROVAL OF THE ENGINEER.

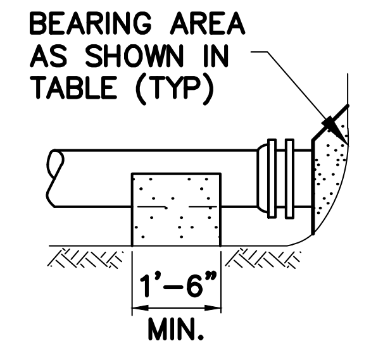
WATER SERVICE DETAIL

N.T.S.



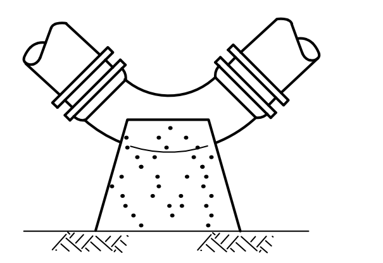
TEE DETAIL

(PLAN VIEW)



CAP DETAIL (PLUG SIMILAR)

(SECTION VIEW)



BEND DETAIL

(PLAN VIEW)

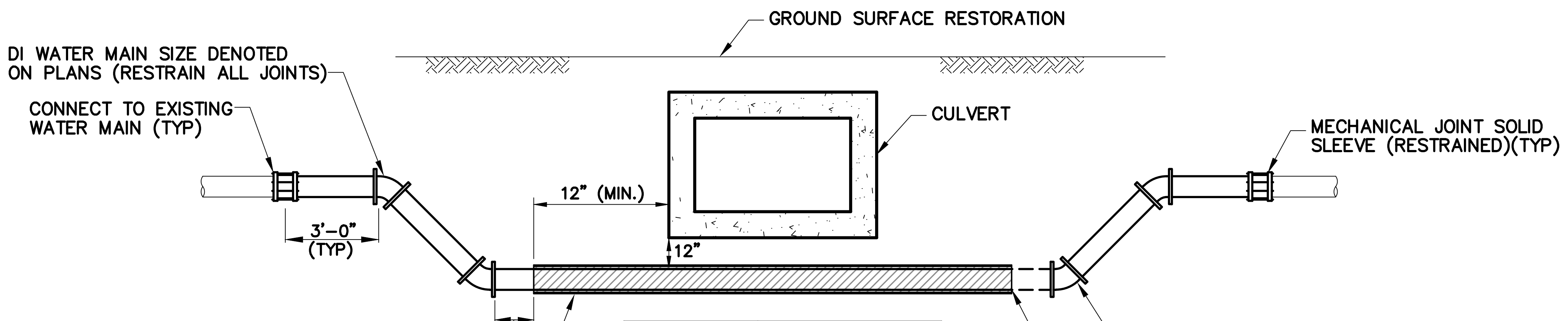
TABLE OF CONCRETE THRUST RESTRAINT MINIMUM BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS				
SIZE OF MAIN	90° BENDS, TEES, CAPS AND PLUGS	45° BENDS AND WYES	22-1/2° BENDS	11-1/4° BENDS
6", 8"	5	4	2	2
10", 12"	12	9	5	2

NOTES:

1. CONCRETE THRUST RESTRAINT SHALL ONLY BE USED WHERE OTHER MEANS OF RESTRAINT ARE NOT FEASIBLE.
2. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF CONCRETE ON THE FITTING JOINTS

CONCRETE THRUST RESTRAINT FOR FITTINGS

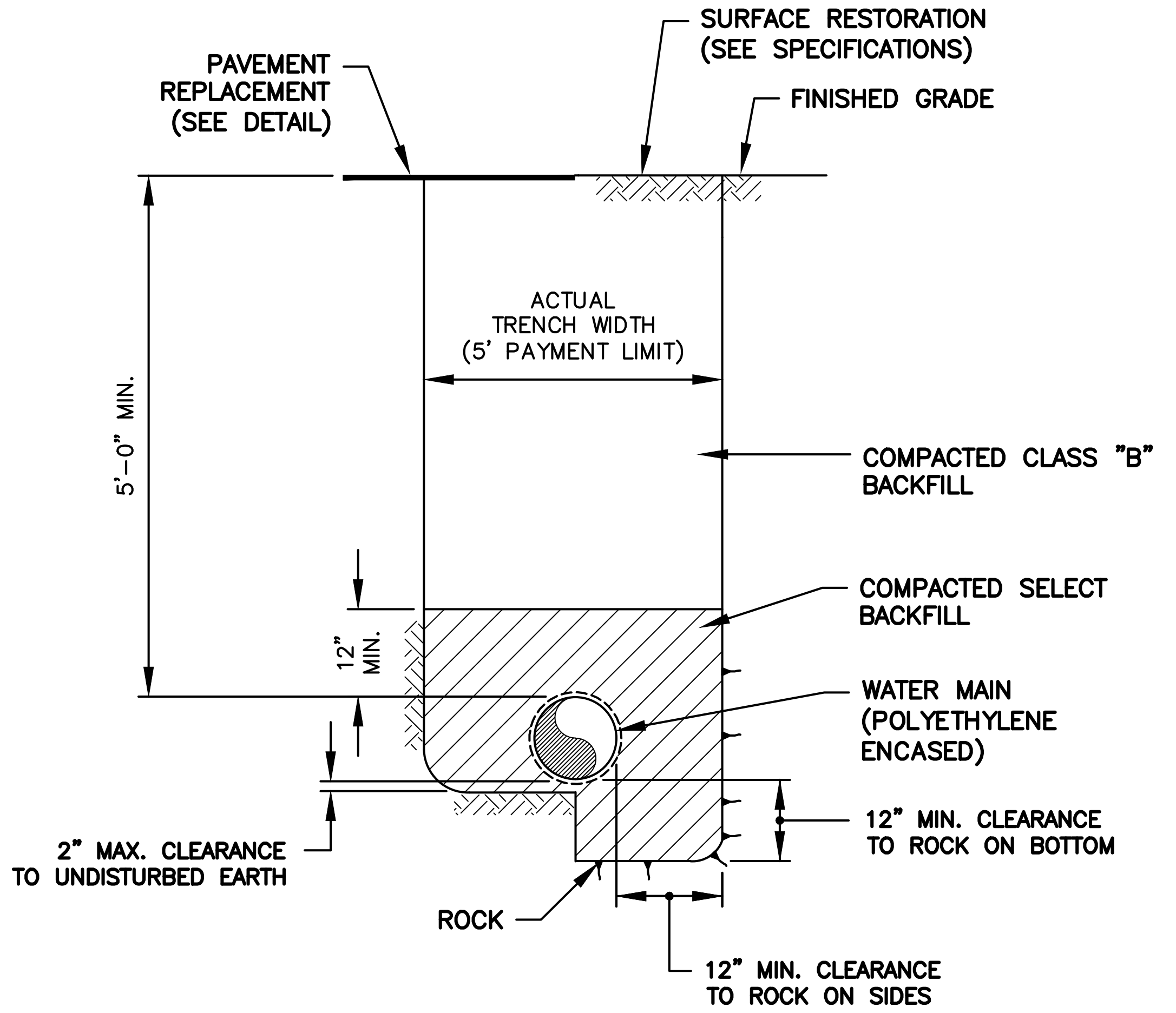
N.T.S.


GROUND SURFACE RESTORATION
DI WATER MAIN SIZE DENOTED ON PLANS (RESTRAIN ALL JOINTS)
CONNECT TO EXISTING WATER MAIN (TYP)
CULVERT
MECHANICAL JOINT SOLID SLEEVE (RESTRAINED)(TYP)
12" (MIN.)
12"
3'-0" (TYP)
45° BEND ROTATED VERTICALLY (TYP)
BRICK AND MORTAR SEAL AT EACH END
2 TIMES PIPE DIA. (MIN.)
BITUMASTIC COATED STEEL CASING PIPE (3/8" WALL THICKNESS) SIZE AS SHOWN IN TABLE
NOTE: CLASS 50 DI PIPE MAY BE SUBSTITUTED FOR STEEL CASING PIPE

WATER SIZE	CASING PIPE SIZE (MIN.)
4"	8"
6"	10"
8"	12"
10"	14"
12"	16"
16"	20"
20"	24"

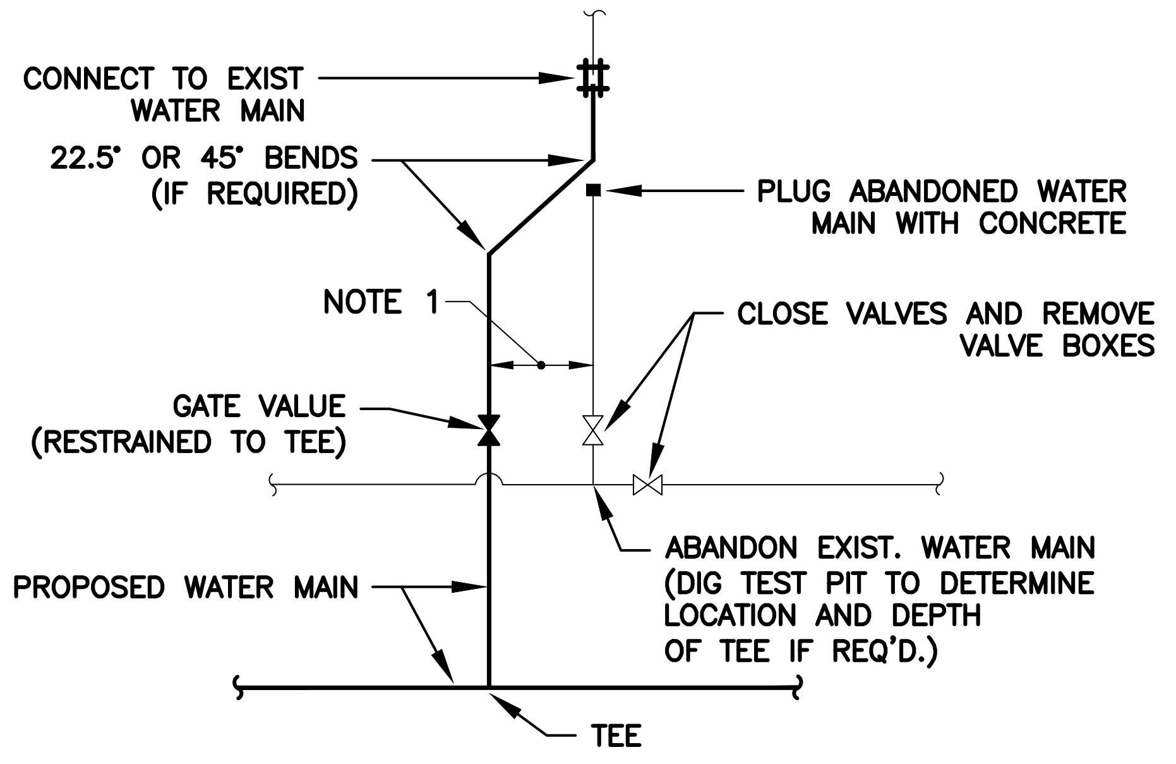
CULVERT CROSSING DETAIL

N.T.S.


PAVEMENT REPLACEMENT (SEE DETAIL)
SURFACE RESTORATION (SEE SPECIFICATIONS)
FINISHED GRADE
ACTUAL TRENCH WIDTH (5' PAYMENT LIMIT)
5'-0" MIN.
COMPACTED CLASS "B" BACKFILL
COMPACTED SELECT BACKFILL
12" MIN.
WATER MAIN (POLYETHYLENE ENCASED)
12" MIN. CLEARANCE TO ROCK ON BOTTOM
2" MAX. CLEARANCE TO UNDISTURBED EARTH
ROCK
12" MIN. CLEARANCE TO ROCK ON SIDES

WATER MAIN TRENCH DETAIL

N.T.S.


CONNECT TO EXIST WATER MAIN
22.5° OR 45° BENDS (IF REQUIRED)
PLUG ABANDONED WATER MAIN WITH CONCRETE
NOTE 1
CLOSE VALVES AND REMOVE VALVE BOXES
GATE VALUE (RESTRAINED TO TEE)
PROPOSED WATER MAIN
ABANDON EXIST. WATER MAIN (DIG TEST PIT TO DETERMINE LOCATION AND DEPTH OF TEE IF REQ'D.)
TEE

NOTE 1:

MINIMUM PRACTICAL DISTANCE – GENERALLY NO MORE THAN 2 FT.

WATER MAIN LATERAL CONNECTION

N.T.S.

Project:
TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

DEPARTMENT OF PUBLIC WORKS
16 LOWELL STREET
READING, MA 01867

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Revisions:

No.	Date	Description

Seal:
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ADAMS
CIVIL
No. 35752

Bruce W. Adams

Issued For:

BID

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Reviewed By: BAR
Approved By: BWA
W&S Project No.: ENG21-0314
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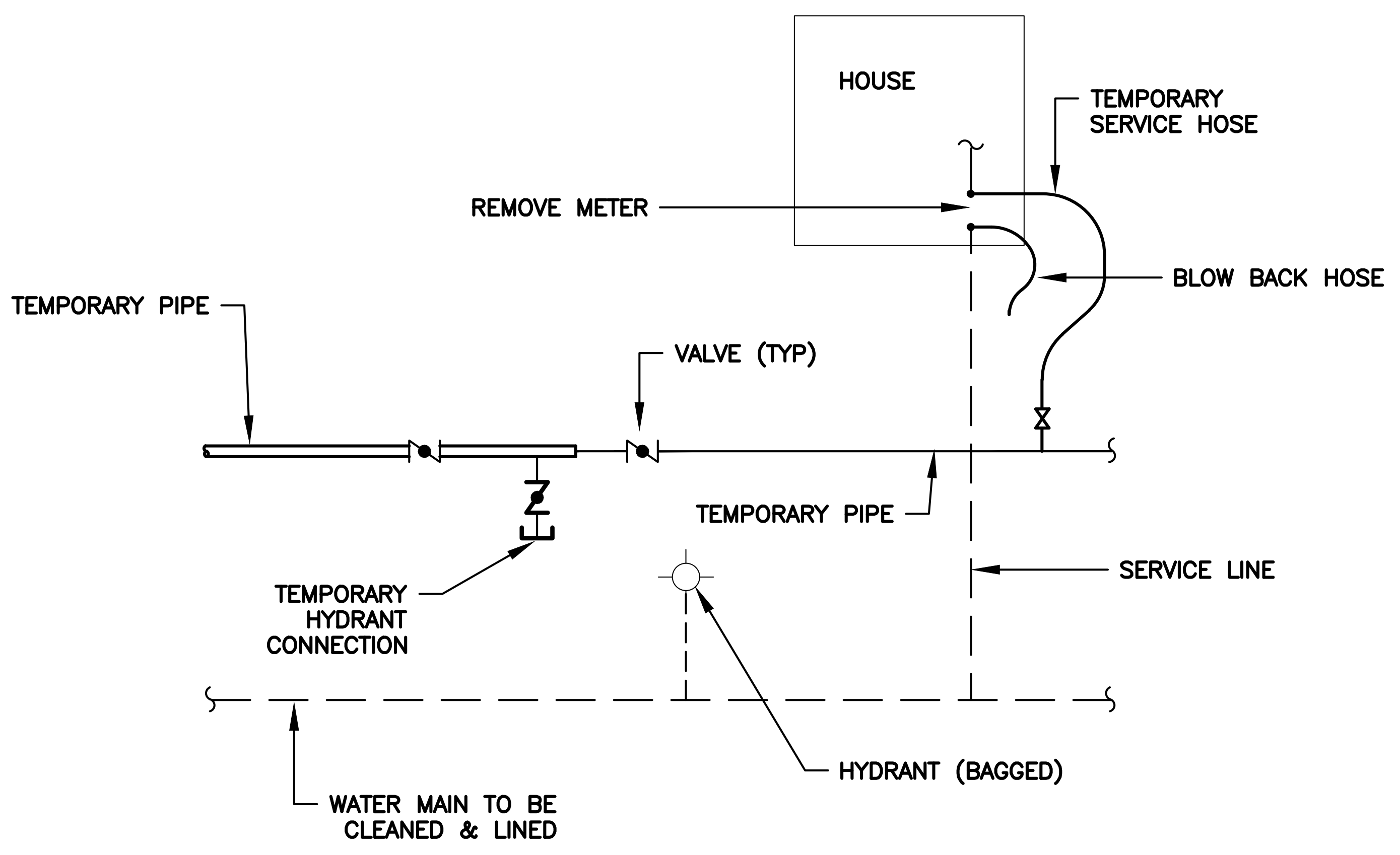
Drawing Title:

UTILITY DETAILS 1

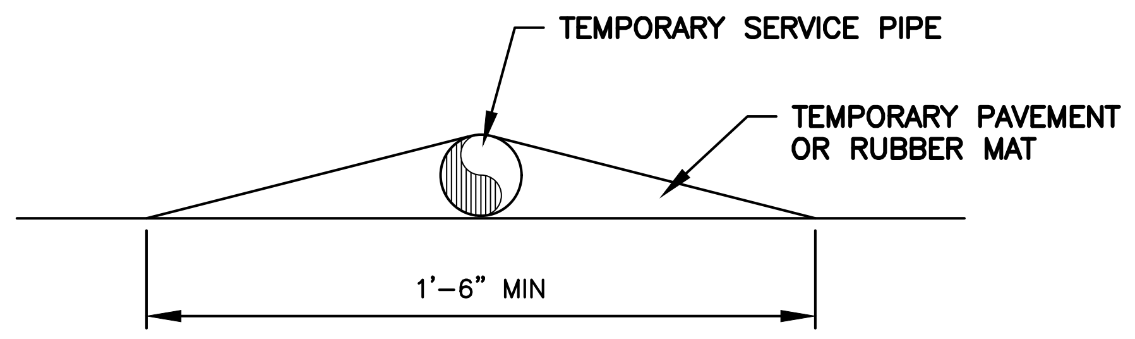
Sheet Number:

CU501



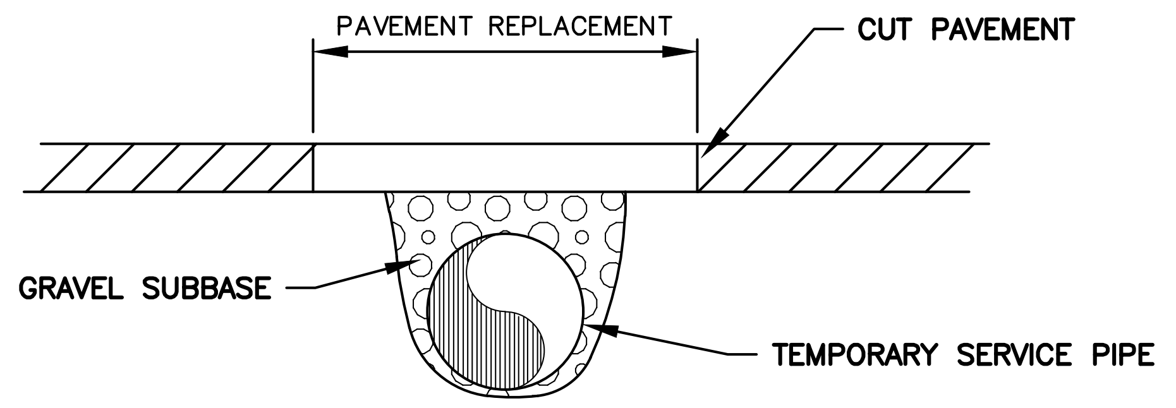
TEMPORARY SERVICE PIPE DETAIL

N.T.S.



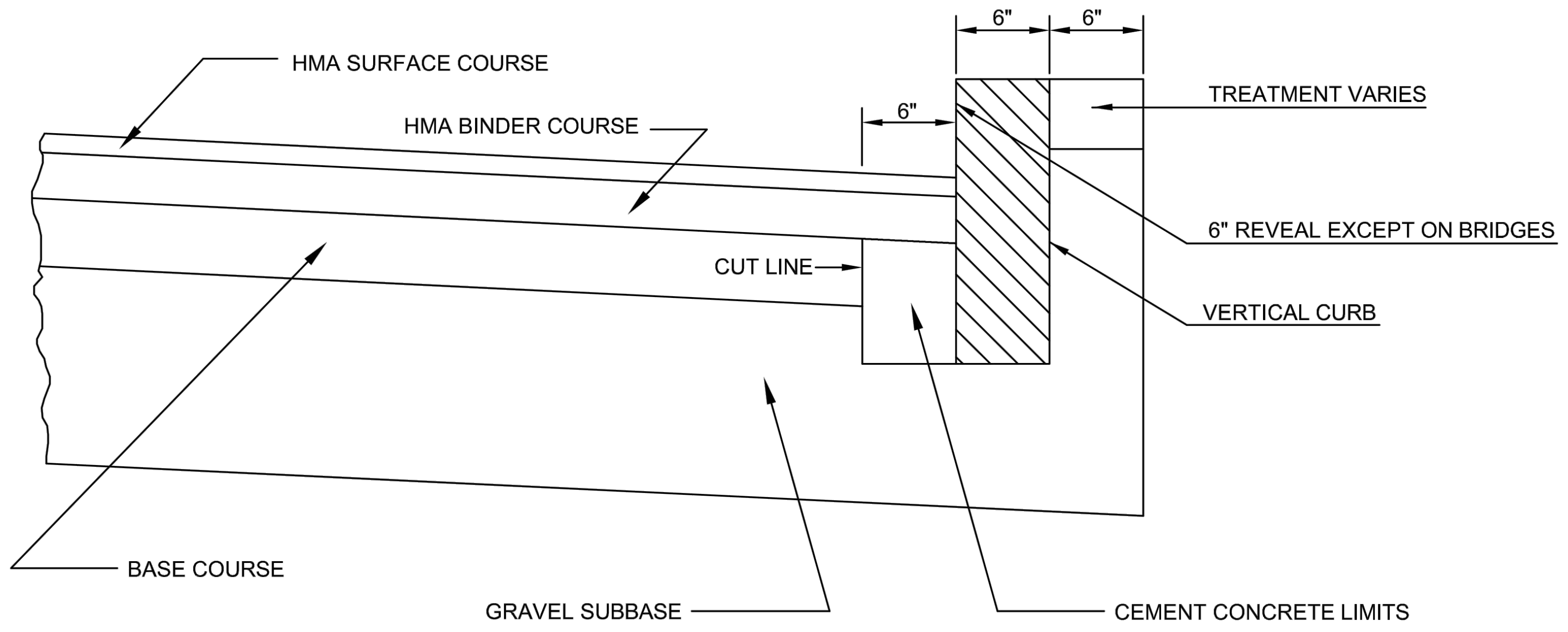
2" TEMPORARY SERVICE PIPE DRIVEWAY CROSSING DETAIL

N.T.S.



4" & 6" TEMPORARY SERVICE PIPE ROADWAY AND DRIVEWAY CROSSING DETAIL

N.T.S.



NOTES:

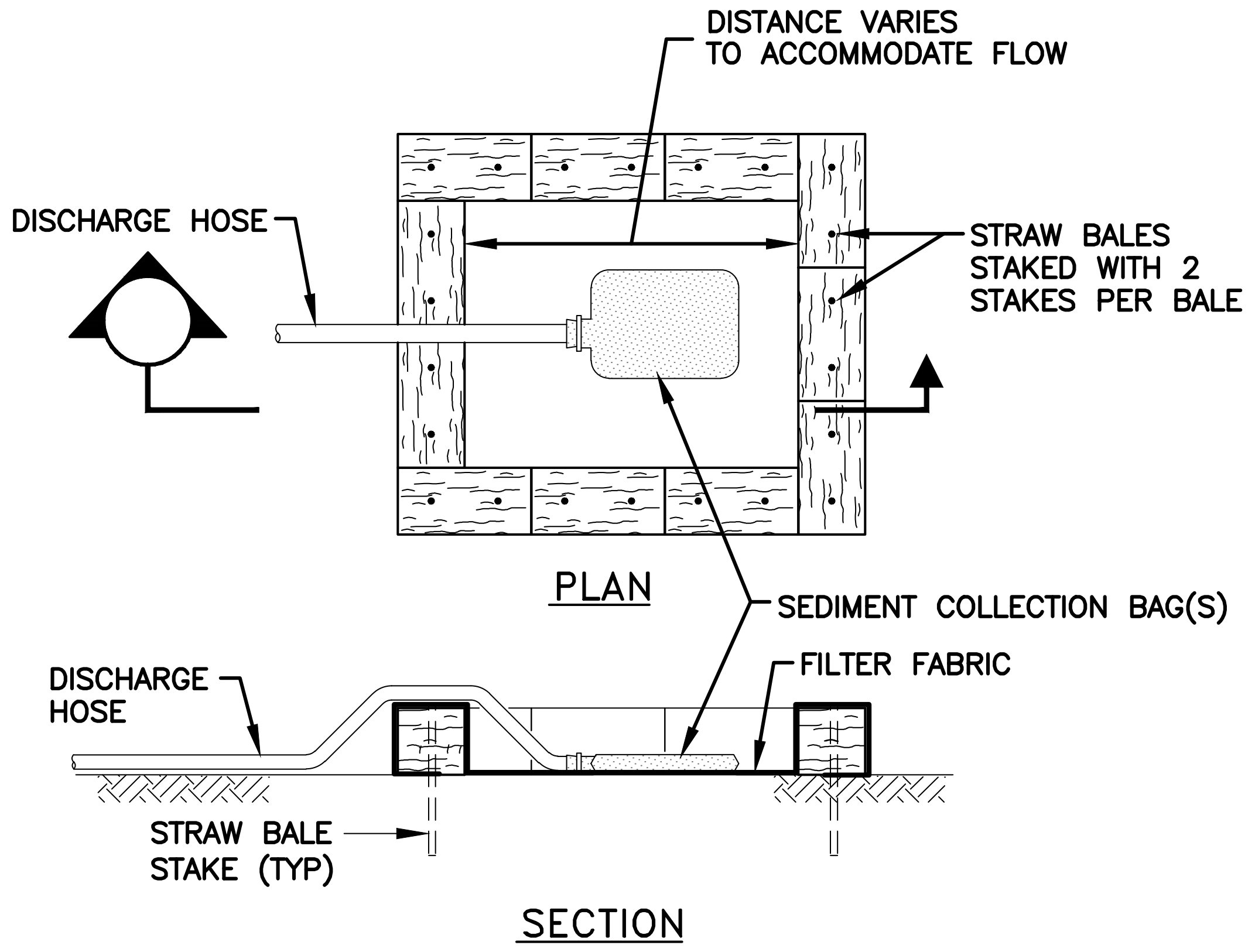
1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.

2. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.

3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT TO BE USED AS A SUBSTITUTE.

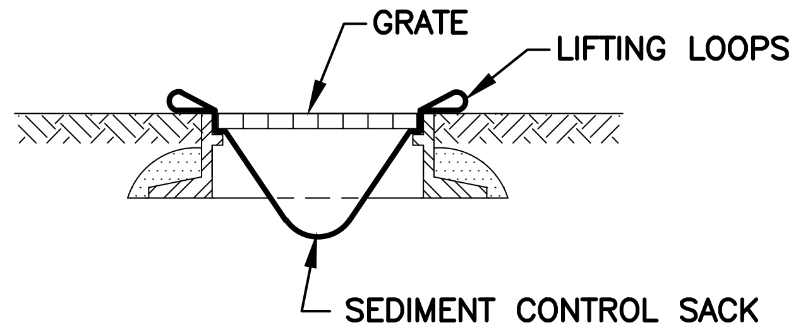
MASSDOT VERTICAL CURB DETAIL

N.T.S.


DISTANCE VARIES TO ACCOMMODATE FLOW
DISCHARGE HOSE
STRAW BALES STAKED WITH 2 STAKES PER BALE
PLAN
SEDIMENT COLLECTION BAG(S)
DISCHARGE HOSE
FILTER FABRIC
STRAW BALE STAKE (TYP)
SECTION

DEWATERING DISCHARGE DISPOSAL DETAIL

N.T.S.

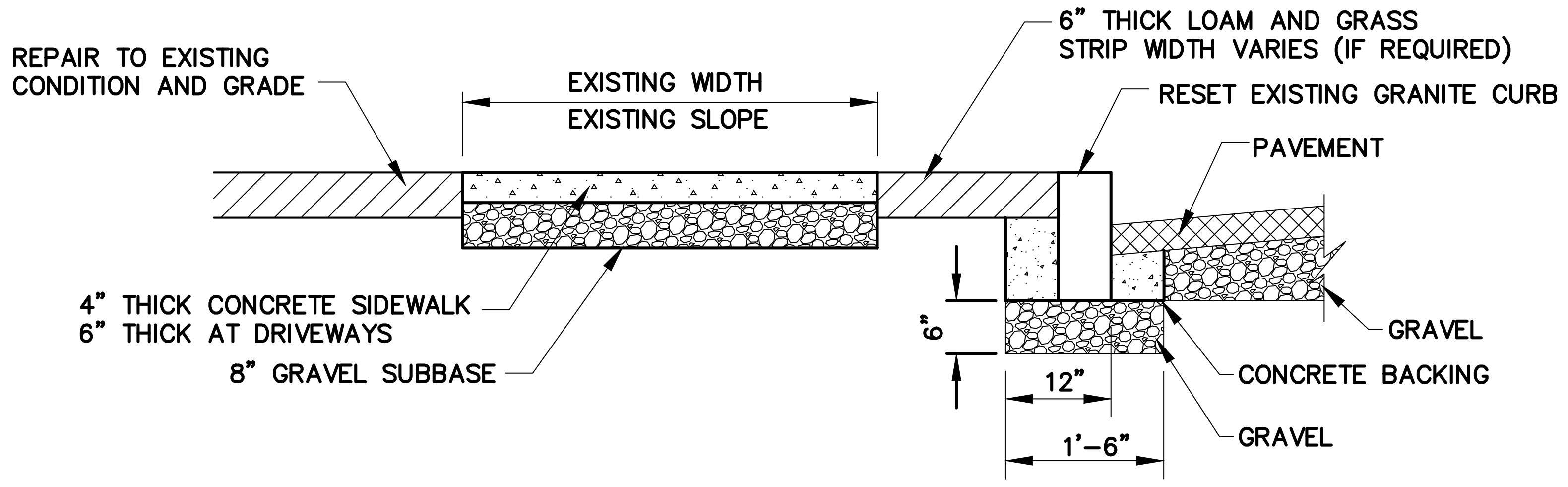


NOTE:

1. PROVIDE AND MAINTAIN CATCH BASIN PROTECTION FOR ALL CATCH BASINS DOWN GRADIENT OF PROPOSED WORK.

CATCH BASIN PROTECTION DETAIL

N.T.S.


6" THICK LOAM AND GRASS STRIP WIDTH VARIES (IF REQUIRED)
REPAIR TO EXISTING CONDITION AND GRADE
EXISTING WIDTH
EXISTING SLOPE
RESET EXISTING GRANITE CURB
PAVEMENT
4" THICK CONCRETE SIDEWALK 6" THICK AT DRIVEWAYS
8" GRAVEL SUBBASE
6"
12"
1'–6"
GRAVEL
CONCRETE BACKING
GRAVEL

TYPICAL SECTION THROUGH CONCRETE SIDEWALK AND CURB

N.T.S.

Project:
TOWN OF READING, MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

DEPARTMENT OF PUBLIC WORKS
16 LOWELL STREET
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Consultants:

Revisions:

No.	Date	Description

Seal:
BRUCE W. ADAMS
CIVIL
No. 35752

Bruce W. Ada

Issued For:

BID

Scale:	AS NOTED
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Drawn By:	ZJM
Reviewed By:	BAR
Approved By:	BWA
W&S Project No.:	ENG21-0314
W&S File No.:	248-25

Drawing Title:

UTILITY DETAILS 2

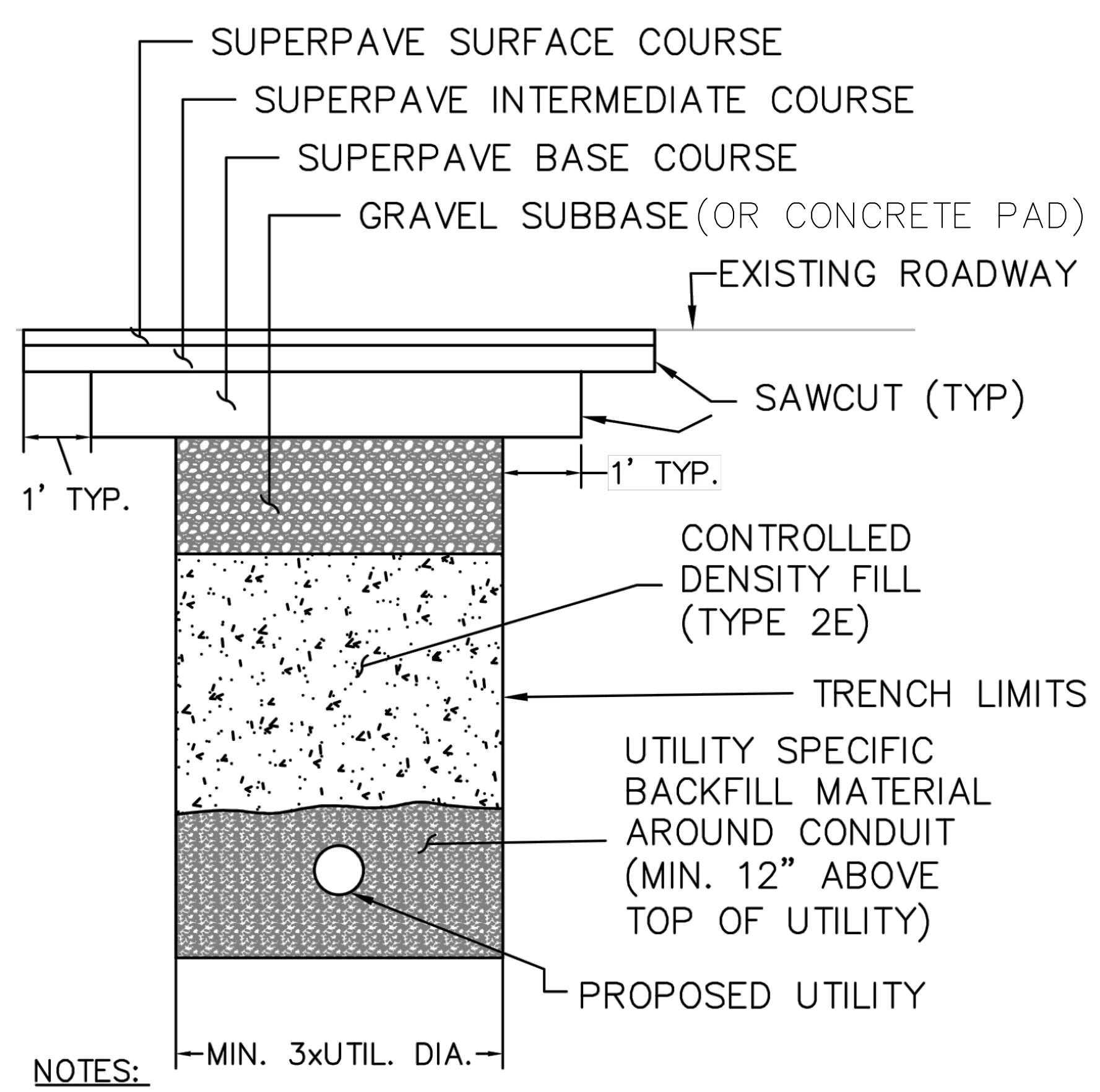
Sheet Number:

CU502

TRENCH SECTION

N.T.S

(FOR TEMPORARY PAVING SEE NOTE 1)


SUPERPAVE SURFACE COURSE
SUPERPAVE INTERMEDIATE COURSE
SUPERPAVE BASE COURSE
GRAVEL SUBBASE (OR CONCRETE PAD)
EXISTING ROADWAY
SAWCUT (TYP)
1' TYP.
1' TYP.
CONTROLLED DENSITY FILL (TYPE 2E)
TRENCH LIMITS
UTILITY SPECIFIC BACKFILL MATERIAL AROUND CONDUIT (MIN. 12" ABOVE TOP OF UTILITY)
PROPOSED UTILITY
MIN. 3xUTIL. DIA.

PAVEMENT NOTES*

PAVEMENT MIX DEPTH SHALL MATCH OR EXCEED THE EXISTING DEPTH OF HMA.

- 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC–12.5)
- 2.25" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC–19.0)
- 3.5" SUPERPAVE BASE COURSE 37.5 (SBC – 37.5)
- MINIMUM 12" GRAVEL SUB–BASE: (MAXIMUM 3" AGGREGATE SIZE)

*TRENCHES ON FREEWAYS SHALL REQUIRE A PAVEMENT DESIGN TO BE SUBMITTED FOR APPROVAL

ALL HOT MIX ASPHALT SHALL BE PRODUCED WITH A WARM MIX ADDITIVE

NOTES:

1.) IF A TEMPORARY PATCH IS TO BE USED, THE CDF SHALL BE PLACED TO THE ELEVATION OF THE ADJOINING SUBGRADE, THEN GRAVEL SHALL BE PLACED AND COMPACTED TO WITHIN 3 1/2 INCHES OF THE FINISHED GRADE. THE LAST 3 1/2 INCHES SHALL BE HOT MIX ASPHALT PLACED IN TWO LAYERS: 1 1/2" SURFACE COURSE OVER 2" INTERMEDIATE COURSE.

2.) MATERIAL WHICH MEETS THE SPECIFICATION FOR GRAVEL BORROW TYPE C (M1.03.0 TYPE C), PLACED AND COMPACTED IN LAYERS NO GREATER THAN 6", MAY BE USED IN PLACE OF THE CDF WITH APPROVAL FROM THE DISTRICT HIGHWAY DIRECTOR.

3.)THE EXPOSED EDGES OF ALL LONGITUDINAL AND TRANSVERSE SAW CUT JOINTS SHALL BE TREATED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALANT MEETING MASSDOT SPECIFICATIONS.

4.) YELLOW METAL FOIL MARKING TAPE SHALL BE PLACED 18" OVER THE CONDUIT (METAL MARKING TAPE/WIRE SHOULD BE USED FOR NON–METALLIC CONDUIT.)

5.) FOR ROADS WITH AN EXISTING CEMENT CONCRETE BASE, A REINFORCED, HIGH EARLY STRENGTH AIR ENTRAINED, CLASS "F" CEMENT CONCRETE SLAB SHALL BE CAST IN PLACE TO MEET THE EXISTING PAVEMENT. SPECIFIC JOINT DETAILS WITH THE EXISTING PAVEMENT SHALL BE APPROVED DEPENDENT ON THE EXISTING SITE CONDITIONS.

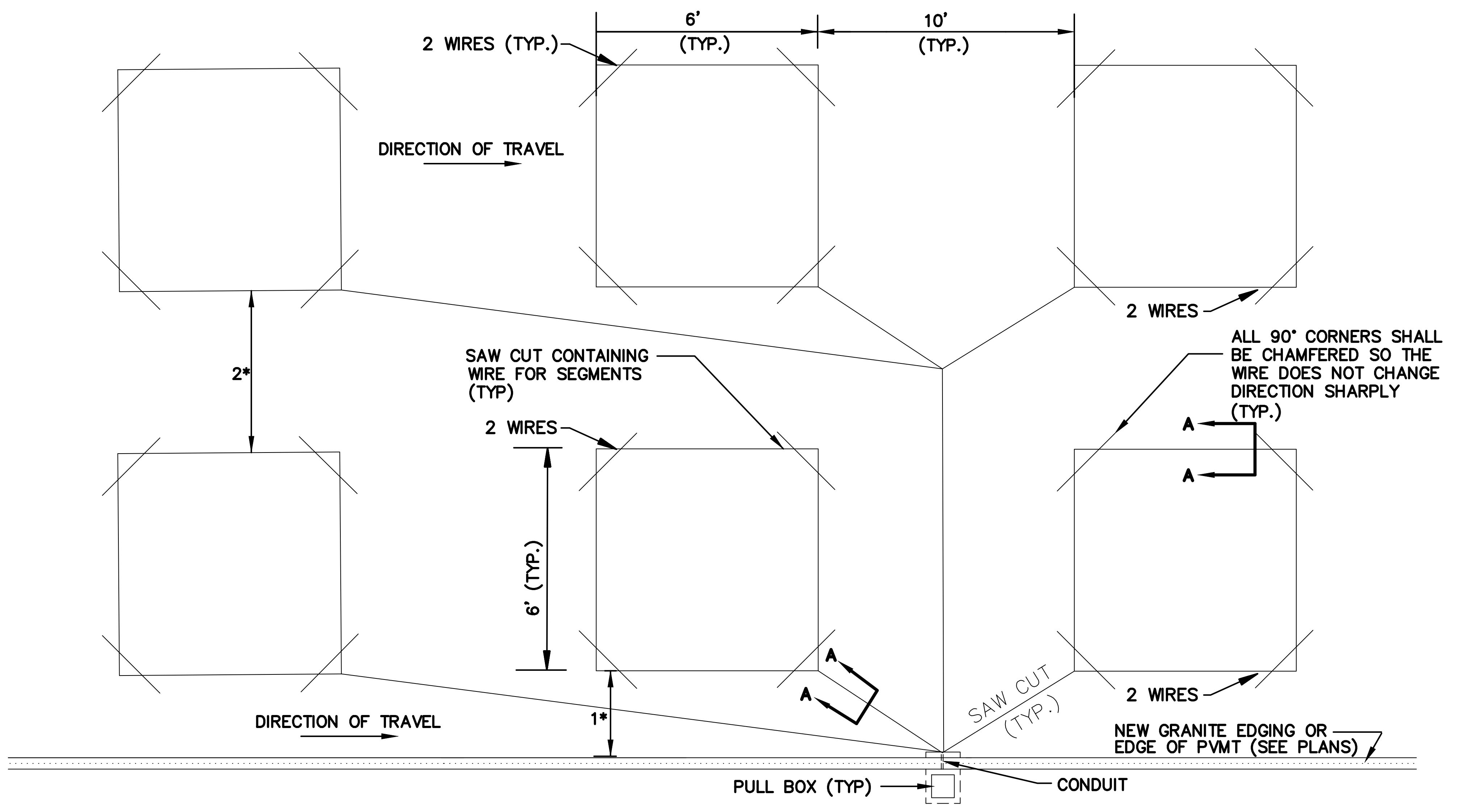
6.) ALL TRENCH DIMENSIONS SHALL BE IN ACCORDANCE WITH SUB–SECTION 140.80 OF THE MASSDOT STANDARDS AND SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

7.) SIC 19.0 MAY BE SUBSTITUTED FOR SBC–37.5

8.) ALL TRENCHES SHALL BE SURFACE TREATED USING THE INFRA–RED METHOD A MINIMUM OF ONE (1) FOOT BEYOND THE LIMITS OF THE TRENCH.

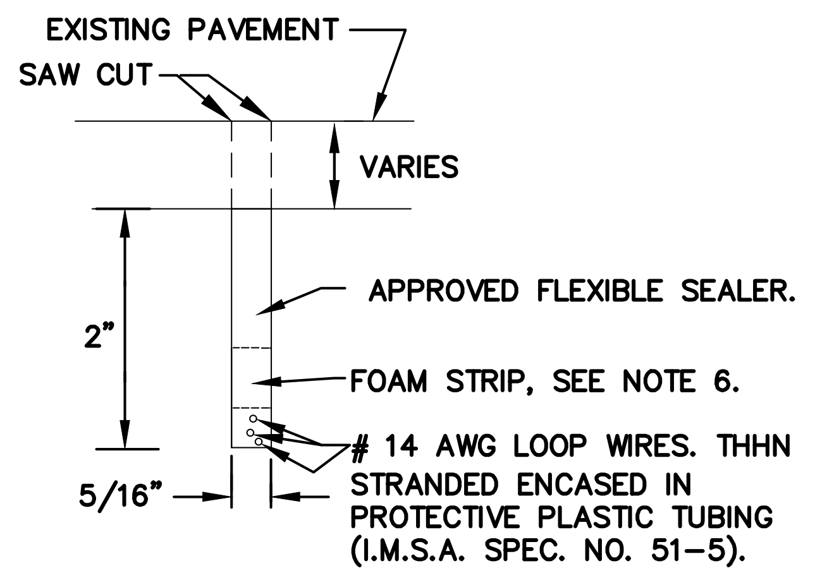
MASSDOT UTILITY TRENCH PERMANENT PAVEMENT REPAIR DETAIL

N.T.S.


2 WIRES (TYP.)
6' (TYP.)
10' (TYP.)
DIRECTION OF TRAVEL
2*
SAW CUT CONTAINING WIRE FOR SEGMENTS (TYP)
2 WIRES
2 WIRES
ALL 90° CORNERS SHALL BE CHAMFERED SO THE WIRE DOES NOT CHANGE DIRECTION SHARPLY (TYP.)
A
A
6' (TYP.)
A
A
SAW CUT (TYP.)
2 WIRES
1*
DIRECTION OF TRAVEL
NEW GRANITE EDGING OR EDGE OF PVMT (SEE PLANS)
PULL BOX (TYP)
CONDUIT

1* OFFSETS FROM CURB TO LOOP AND EDGE OF LANE TO LOOP EQUAL IF NOT SHOWN

2* OFFSETS FROM LANE LINE TO LOOP AND EDGE OF CENTER LANE TO LOOP EQUAL IF NOT SHOWN


EXISTING PAVEMENT
SAW CUT
VARIES
APPROVED FLEXIBLE SEALER.
2"
FOAM STRIP, SEE NOTE 6.
# 14 AWG LOOP WIRES. THHN STRANDED ENCASED IN PROTECTIVE PLASTIC TUBING (I.M.S.A. SPEC. NO. 51–5).
5/16"

SECTION A–A

LOOPS IN PAVEMENT

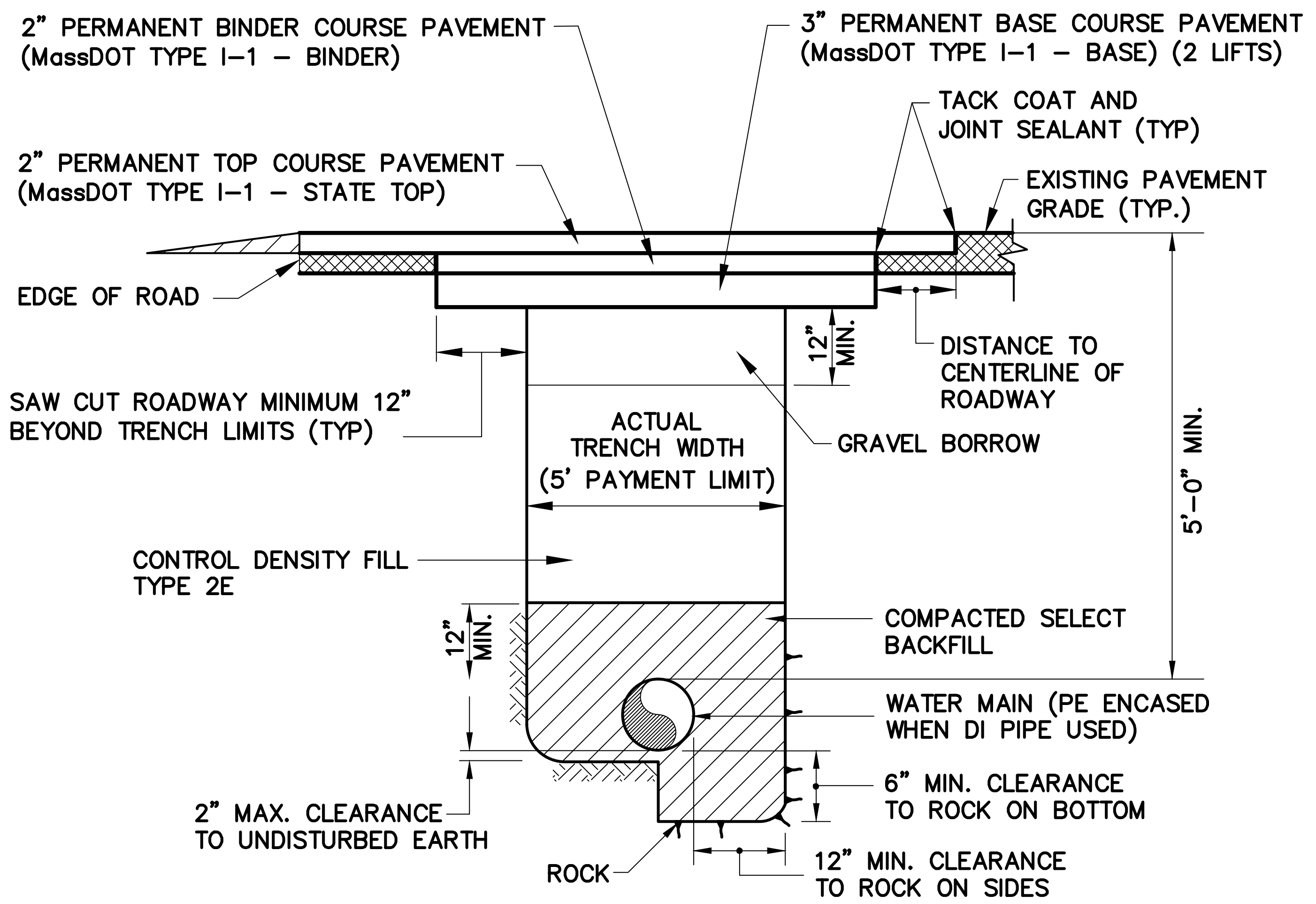
N.T.S.

LOOP DETECTOR INSTALLATION (TYPICAL)

N.T.S.

DETECTOR NOTES

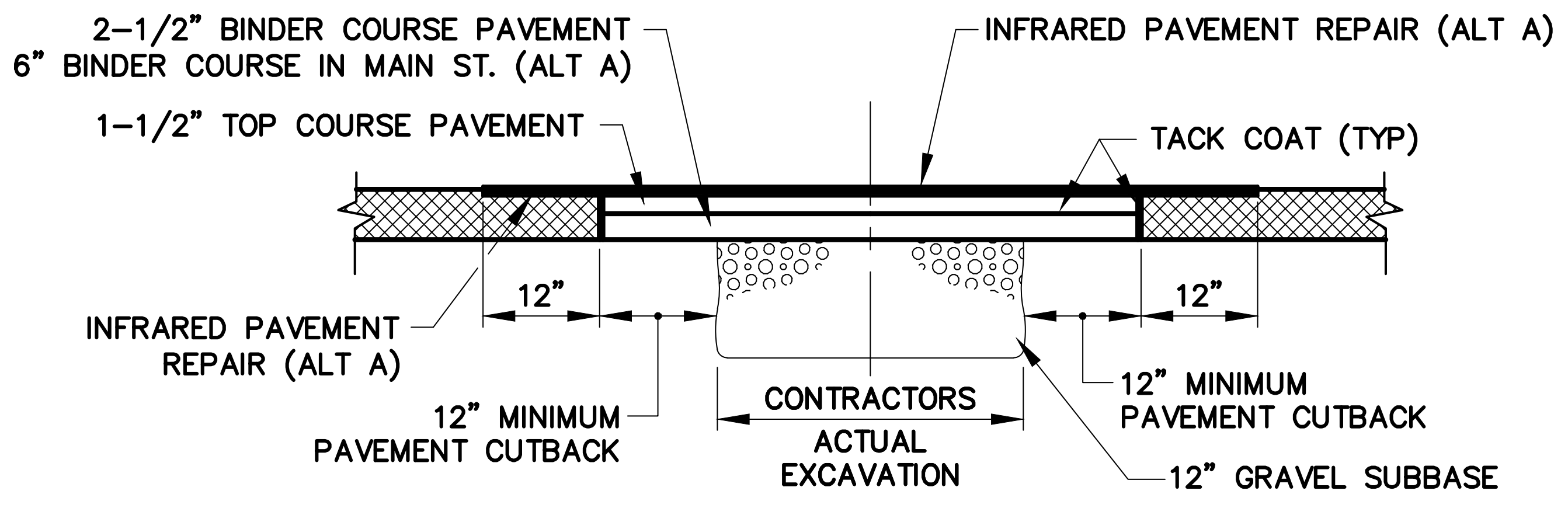
1. IN BASE OF HANDHOLE, SPLICE ALL SEGMENTS TO TYPE II–SHIELDED LOOP DETECTOR OR LEAD–IN CABLE. SEGMENTS SHALL BE SPLICED IN PARALLEL, IN SERIES, OR IN A COMBINATION OF PARALLEL & SERIES AS SHOWN ON THE PLAN SHEET FOR EACH DETECTOR.
2. LEAD IN WIRES SHALL BE TWISTED FROM SEGMENT TO SPLICE WITH SHIELDED CABLE FIVE TURNS PER FOOT. LEAD–IN SHALL BE TYPE II (M8.16.II).
3. BEFORE STARTING ANY SPLICING, THE CONTRACTOR SHALL FURNISH DATA SHEETS ON THE MATERIALS AND/OR METHODS TO BE USED IN ACCORDANCE WITH THE STANDARD OPERATING PROCEDURES FOR APPROVAL OF SHOP DRAWINGS
4. THE METALLIC SHIELD WHICH SHALL ENCASE THE DETECTOR LEADS FROM A SPLICE (TYPICALLY LOCATED IN A PULL BOX NEAR THE ROADWAY COMPONENT OF THE DETECTOR) TO THE CONTROLLER, AND THE DRAIN WIRE UNDER THE METALLIC SHIELD, SHALL BE FIRMLY BONDED TO THE EARTH GROUNDING BUSS IN THE CONTROLLER HOWEVER, THE SHIELD AND DRAIN WIRE SHALL BE CAREFULLY INSULATED FROM THE TRANSFORMER NEUTRAL OR FROM EARTH GROUND AT ALL OTHER POINTS ALONG ITS LENGTH. SPECIFICALLY, THIS INCLUDES CAREFUL INSULATION OF THE EXPOSED PORTION OF THE SHIELD AND THE DRAIN WIRE AT THE END AWAY FROM THE CONTROLLER WHERE IT IS SPLICED TO WIRES LEADING TO THE ROADWAY COMPONENT OF THE DETECTOR. THIS IS IMPORTANT TO AVOID A GROUND RETURN LOOP.
5. FILL ALL CONDUIT OPENINGS WITH DUCT SEAL.
6. AFTER SAW CUTS ARE COMPLETE, BLOW OUT CUTS WITH OIL AND WATER FREE COMPRESSED AIR UNTIL CUTS ARE CLEAN AND DRY. INSERT WIRE INTO CLEAN SLOT WITH A BLUNT, SMOOTH, ROUND EDGED TOOL OF WOOD OR PLASTIC SUCH AS A PAINT STIRRER. DO NOT USE A SCREWDRIVER, THEN INSERT FOAM PLASTIC HOLD DOWN STRIPS, SIMILAR TO ETHA FOAM SB STRIPS SHALL BE ABOUT 2" LONG, PLACED IN THE SLOT ABOUT EVERY 2 FEET THEN POUR SEALER, TAKING CARE TO ELIMINATE BUBBLES.
7. THE COMBINED ROADWAY LOOP, TWISTED LEAD–IN WIRES, SPLICE AND SHIELDED LEAD–IN CABLE SHALL HAVE A RESISTANCE TO GROUND OF AT LEAST 100 MEGOHMS.
8. FOR INSTALLATION OF SINGLE (ONE SEGMENT) SMALL WIRE LOOP DETECTOR DETAIL IS THE SAME
9. CUT LOOPS IN TOP COURSE AND FILL WITH APPROVED FLEXIBLE SEALER (M.3.05.0).
10. DETECTOR WIRE SHALL BE A DIFFERENT COLOR FOR EACH SEGMENT OF A DETECTOR GROUP.


2" PERMANENT BINDER COURSE PAVEMENT (MassDOT TYPE I–1 – BINDER)
3" PERMANENT BASE COURSE PAVEMENT (MassDOT TYPE I–1 – BASE) (2 LIFTS)
TACK COAT AND JOINT SEALANT (TYP)
2" PERMANENT TOP COURSE PAVEMENT (MassDOT TYPE I–1 – STATE TOP)
EXISTING PAVEMENT GRADE (TYP.)
EDGE OF ROAD
12" MIN.
DISTANCE TO CENTERLINE OF ROADWAY
SAW CUT ROADWAY MINIMUM 12" BEYOND TRENCH LIMITS (TYP)
ACTUAL TRENCH WIDTH (5' PAYMENT LIMIT)
GRAVEL BORROW
5'–0" MIN.
CONTROL DENSITY FILL TYPE 2E
12" MIN.
COMPACTED SELECT BACKFILL
WATER MAIN (PE ENCASED WHEN DI PIPE USED)
2" MAX. CLEARANCE TO UNDISTURBED EARTH
6" MIN. CLEARANCE TO ROCK ON BOTTOM
ROCK
12" MIN. CLEARANCE TO ROCK ON SIDES

TYPE 3

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MassDOT) PERMANENT TRENCH PAVEMENT AND WATER MAIN TRENCH

N.T.S.

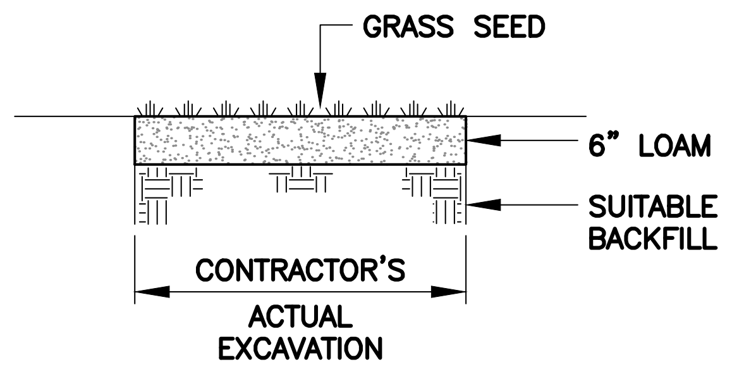

2–1/2" BINDER COURSE PAVEMENT
6" BINDER COURSE IN MAIN ST. (ALT A)
INFRARED PAVEMENT REPAIR (ALT A)
1–1/2" TOP COURSE PAVEMENT
TACK COAT (TYP)
INFRARED PAVEMENT REPAIR (ALT A)
12"
12"
12" MINIMUM PAVEMENT CUTBACK
CONTRACTORS ACTUAL EXCAVATION
12" MINIMUM PAVEMENT CUTBACK
12" GRAVEL SUBBASE

TRENCH WIDTH PAVEMENT

FULL SECTION

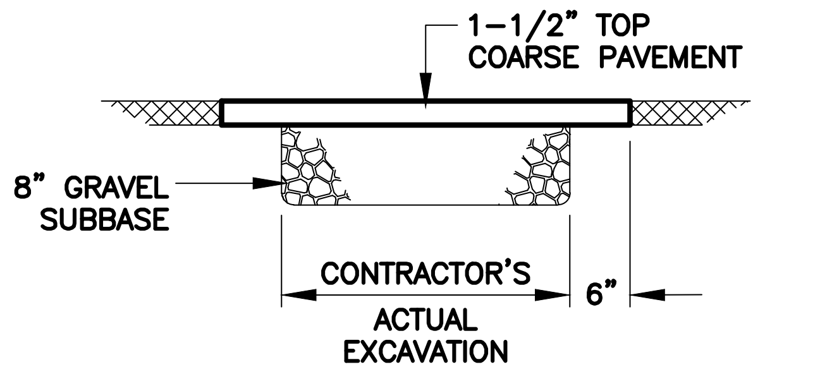
LOCAL STREET PAVEMENT REPLACEMENT DETAIL

N.T.S.



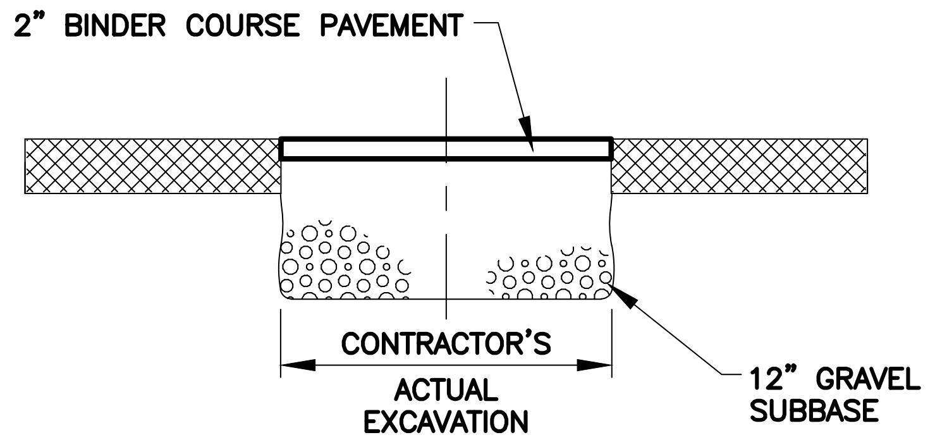
GRASS STRIP REPAIR DETAIL

N.T.S.



ASPHALT SIDEWALK REPAIR DETAIL

N.T.S.



TEMPORARY PAVEMENT DETAIL

N.T.S.

Project:

TOWN OF READING,
MASSACHUSETTS

DOWNTOWN WATER MAIN
IMPROVEMENTS
CONTRACT 22-30

DEPARTMENT OF PUBLIC WORKS
16 LOWELL STREET
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Consultants:

Revisions:

No.	Date	Description

Seal:

BRUCE W. ADAMS
CIVIL
No. 35752

Bruce W. Adams

Issued For:

BID

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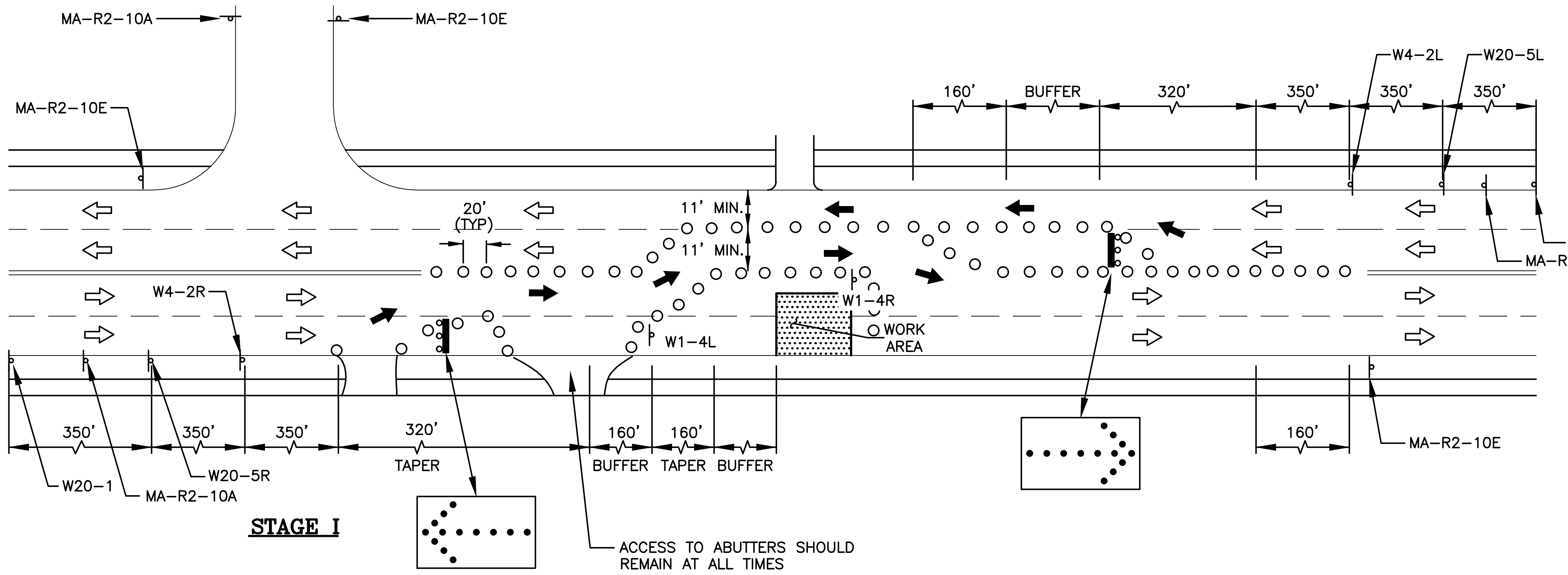
Date:	JUNE, 2022
Drawn By:	ZJM
Reviewed By:	BAR
Approved By:	BWA
W&S Project No.:	ENG21-0314
W&S File No.:	248-24

Drawing Title:

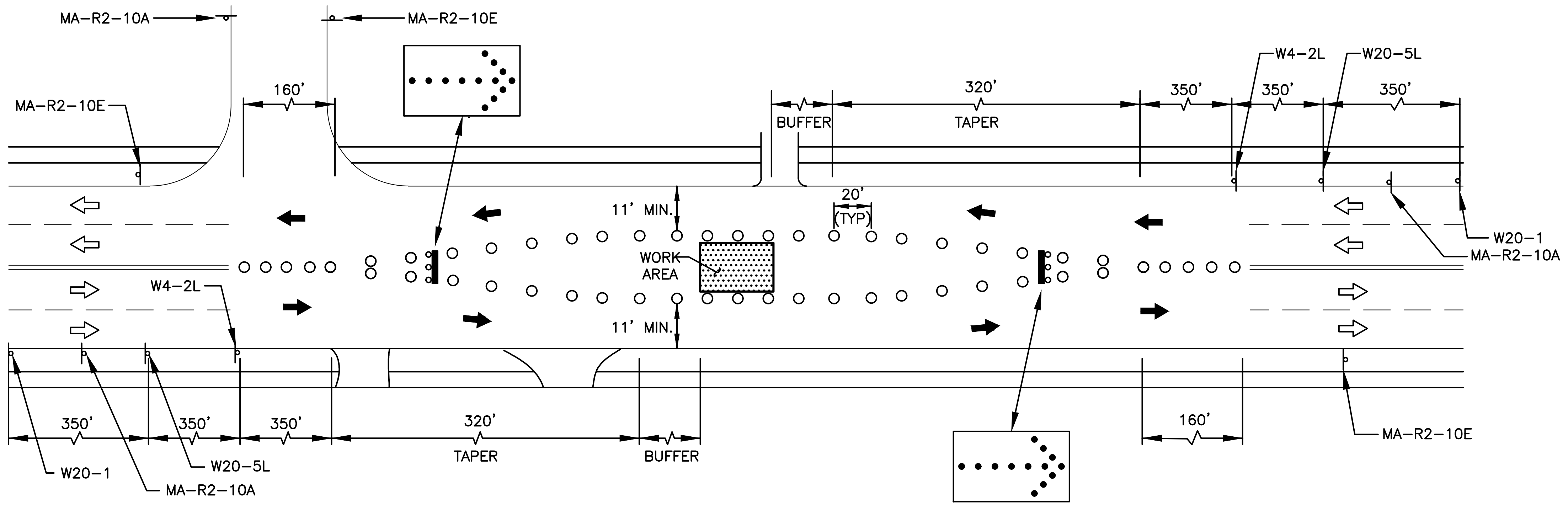
UTILITY DETAILS 3

Sheet Number:

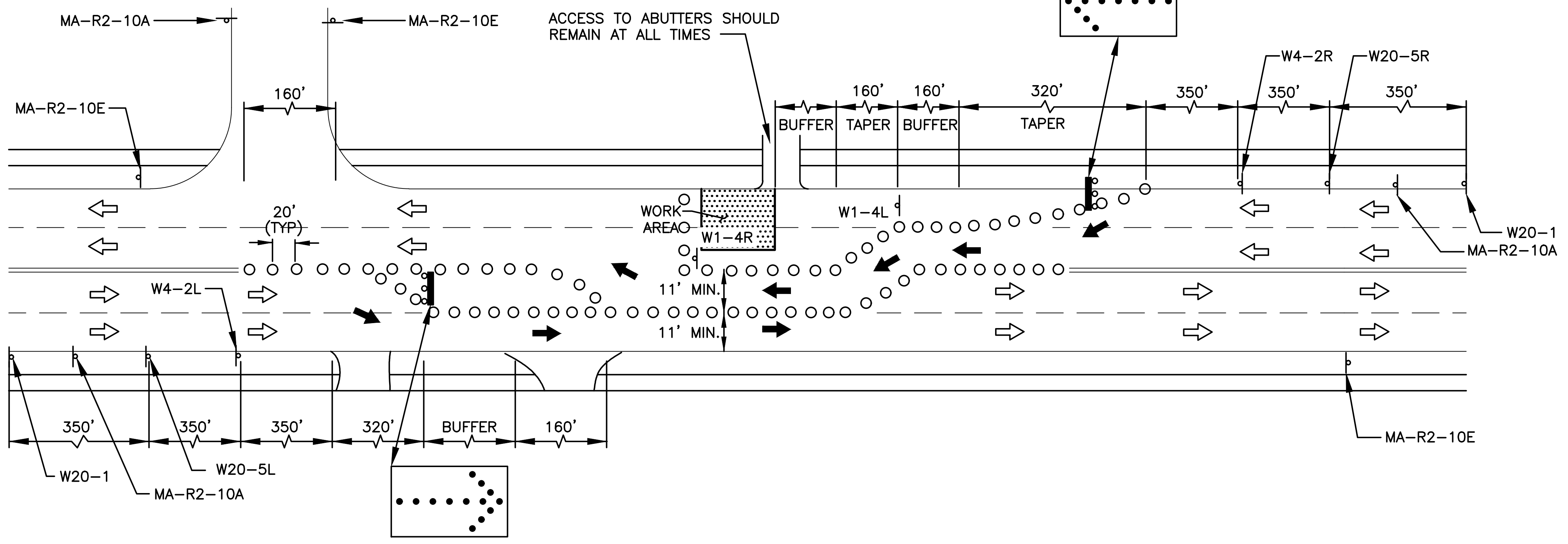
CU503



STAGE I

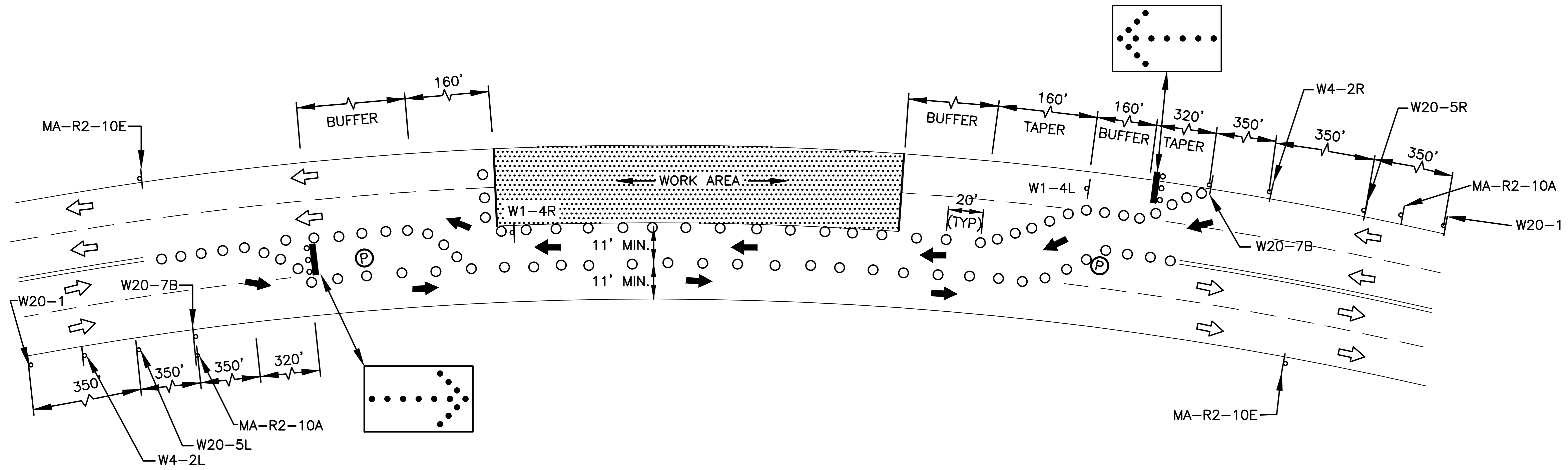


STAGE II

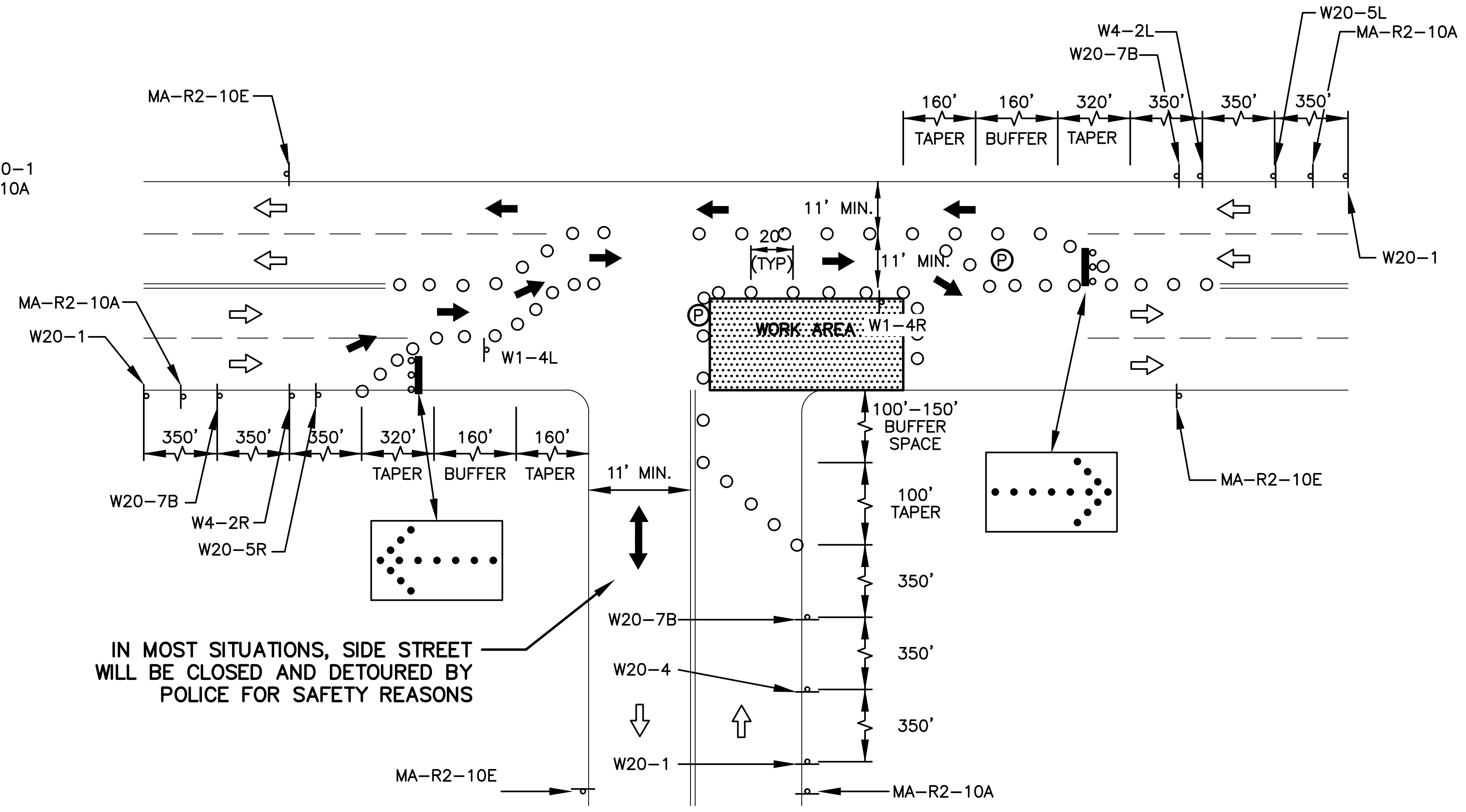


STAGE III

TRAFFIC OPERATION STAGES – TEMPORARY DAYTIME LANE CLOSURE
N.T.S.



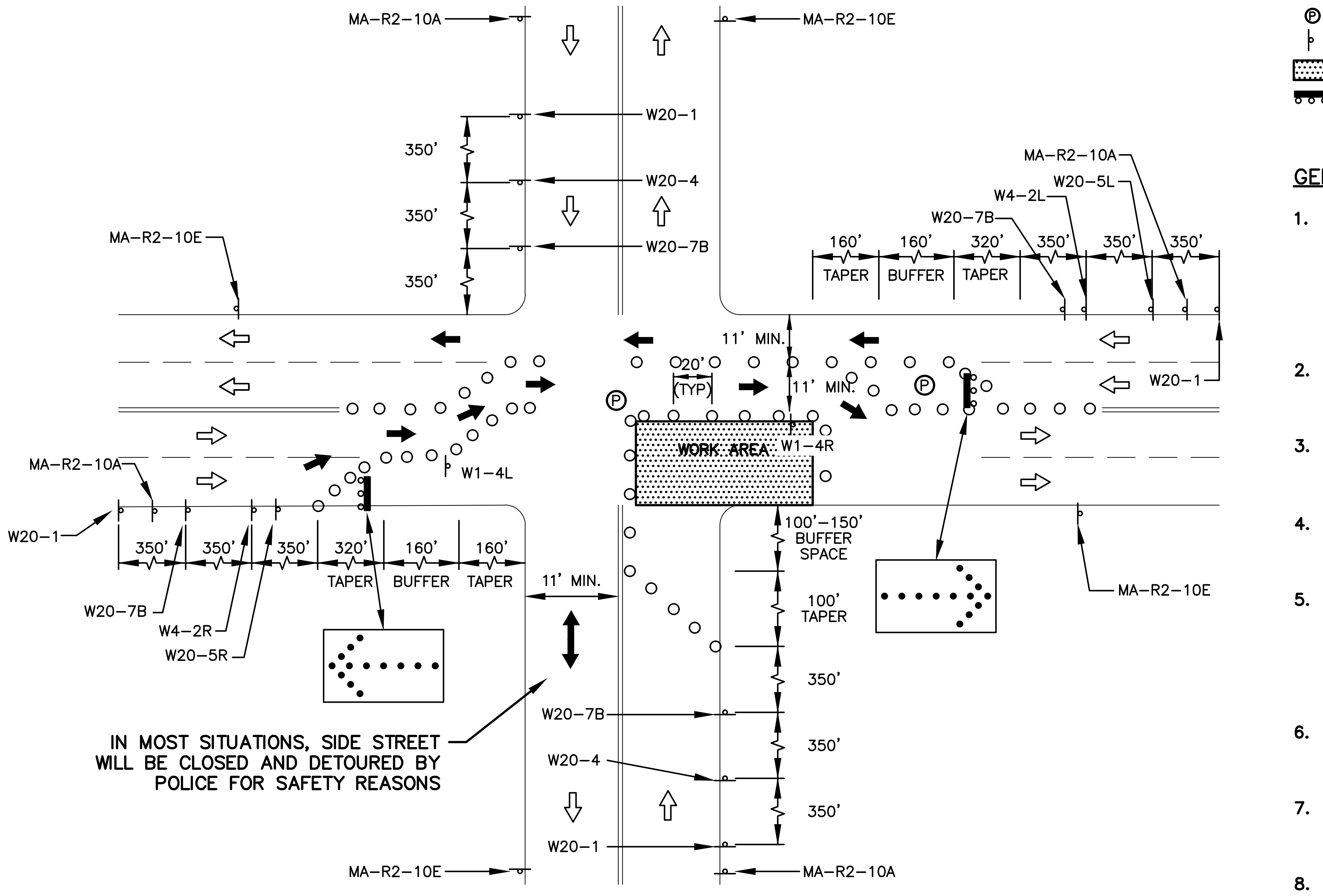
TYPICAL TEMPORARY DAYTIME LANE CLOSURE – THROUGH ROADWAY
N.T.S.



"T" INTERSECTION LANE CLOSURE
N.T.S.

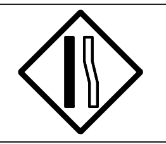
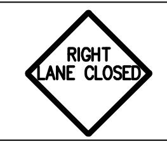
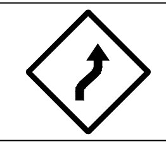
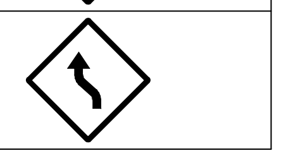
NOTE:

1. CONSTRUCTION ZONE SAFETY PLAN (CZSP) SHOWN FOR RT. 28/MAIN ST. SIMILAR CZSP TO BE DEPLOYED ON MILL ST. PER COORDINATION WITH LOCAL POLICE AND FIRE.



CLOSURE AT SIDE OF INTERSECTION
N.T.S.

TEMPORARY TRAFFIC SIGN SUMMARY

MUTCD CODE	SIZE OF SIGN		SIGN
	WIDTH	HEIGHT	
W4-2	36"	36"	
W20-1	36"	36"	
W20-4	36"	36"	
W20-5R	36"	36"	
W20-7B	36"	36"	
W1-4R	36"	36"	
W1-4L	36"	36"	

NOTE:

1. FOR THE LATEST SPECIFICATION ON TEXT DIMENSIONS AND COLOR, CONTRACTOR SHALL REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION).

LEGEND:

○	REFLECTORIZED DRUM
⬅	TRAFFIC FLOW DURING CONSTRUCTION
⇦	NORMAL TRAFFIC FLOW
Ⓟ	APPROX. LOCATION OF POLICE DETAIL OFFICER
⚑	CONSTRUCTION SIGN
▨	WORK AREA
▬	FLASHING ARROW BOARD

GENERAL NOTES:

1. PLACEMENT OF ALL CONSTRUCTION SIGNS, DRUMS, BARRICADES, TRAFFIC DEVICES AND THE SHAPE, SIZE & COLOR OF ALL TEMPORARY TRAFFIC SIGNS SHALL CONFORM WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS.
2. ADVANCE WARNING SIGN PLACEMENT AND TAPER LENGTH TO BE ADJUSTED ACCORDING TO STREET CONDITIONS AND DRIVEWAY OPENINGS.
3. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
4. THE FIRST TEN (10) PLASTIC DRUMS OF TAPER SHALL BE MOUNTED WITH TYPE-A SEQUENTIAL FLASHING LIGHTS.
5. THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
6. NONESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
7. PEDESTRIANS SHALL BE PROVIDED WITH ACCESS AND SAFE PASSAGE THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE AT ALL TIMES.
8. W20-7B SHALL BE TAKEN DOWN OR COVERED AFTER EACH WORKING DAY OR WHEN OTHERWISE NOT APPLICABLE, OR WHEN POLICE OFFICERS ARE NOT PRESENT TO DIRECT TRAFFIC.
9. ADVISORY SPEED PLATES (W13-1 – SEE CURRENT EDITION OF MUTCD) SHALL BE USED IF APPLICABLE AND AS REQUIRED BY THE ENGINEER.
10. NO DIFFERENCE IN ROADWAY LANE ELEVATION WILL BE ALLOWED AT THE END OF THE WORK DAY.
11. SAMPLE TRAFFIC PLANS INCLUDED ON THIS PLAN SHEET ARE BASED ON AN URBAN (LOW SPEED) ROAD TYPE FROM THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. CONTRACTOR TO ADJUST TAPER LENGTHS AND WORK AREA AS NEEDED.
12. THE CONTRACTOR SHALL SUBMIT ANY REVISIONS TO THE CONSTRUCTION ZONE SAFETY PLAN TO THE ENGINEER FOR APPROVAL.
13. THIS CONSTRUCTION ZONE SAFETY PLAN SHALL NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.

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Drawing Title:
CONSTRUCTION
ZONE SAFETY PLAN

Sheet Number:
CT501

Rev: 2.0 Date: July 2020